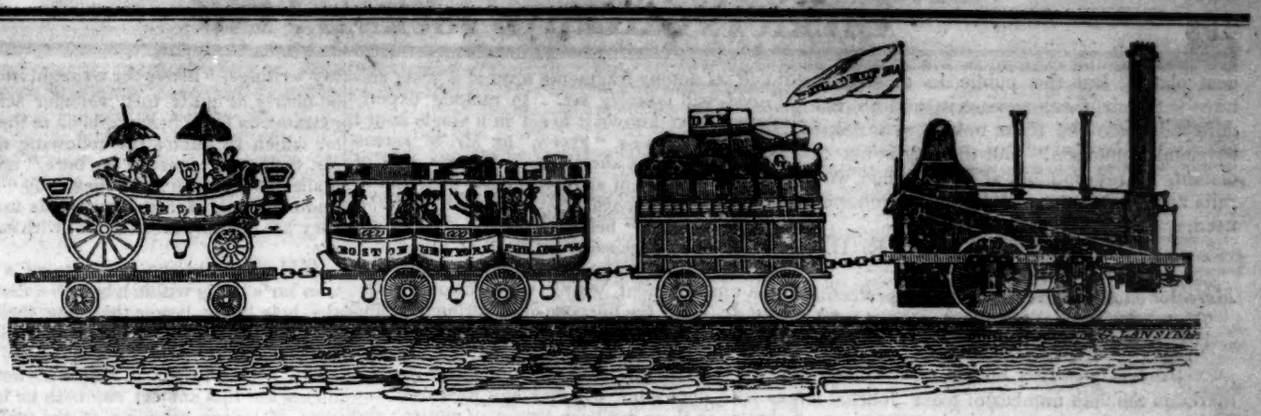

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] **SATURDAY, AUGUST 10, 1833.** [VOLUME II.—No. 32.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, AUGUST 10, 1833.

ELIZABETHTOWN AND SOMERVILLE, AND DELAWARE AND SUSQUEHANNA RAILROAD.—The books for subscription to the stock of these roads were opened last week, and we are gratified to learn that the stock was taken. This shows that our neighbors of New-Jersey and the northern part of Pennsylvania are awake to their true interest. They are resolved to open the easiest and best mode of communication from the interior of those States—which abounds in mines of far greater value to this community than those of Carolina—with this city, and also with the interior of the State of New-York, at or near the Great Bend of the Susquehanna.

We were furnished with documents to enable us to go minutely into the subject, to show the feasibility, and the *great utility* of this proposed Railroad; but by accident a part of them have been mislaid, and therefore we are prevented from devoting that space to it, in this number, which we had set apart. We hope, however, to be able in our next to spread before our readers such facts as will aid those who desire to investigate the matter, in coming to correct conclusions. We will now only refer to the route of the different roads which, when completed, will form a continuous road from Jersey City, opposite New-York, through New-Jersey and Pennsylvania, to the New-York line, near the Great Bend.

The route through New-Jersey is from Jersey City, through Newark, Elizabethtown, and Somerville, to Belvidere, at which place it will probably cross the Delaware, and pass up on the west side to the Water Gap; from thence it bears westward through Stroudsburgh to, or *near* Pittston, on the Susquehanna, passing through the Lackawanna Coal Region. The distance from New-York to the Susquehanna, as the route has been examined, is 146 miles. From the Delaware and Susquehanna Railroad, where it passes through the Lackawanna Coal formation to Carbondale, 12 miles, and from Carbondale to the Great Bend of the Susquehanna, 47½ miles; making the entire distance from Hoboken to the Great Bend, 192½ miles.

By this route a large proportion of the business which now goes to Baltimore and Philadelphia would be diverted to New-York, in addition to the great benefit to be derived from a more direct, and of course less expensive, route for the coal trade.

[*From the Albany Argus.*]

NEW YORK AND OHIO CANALS.—We are authorized to state that Judge Tappan and Mr. Kelly, a committee of the Canal Commissioners of Ohio, had a meeting with a committee of the Canal Board of this State, at the canal room in this city, on the 30th July and that it was agreed by them to recommend to their respective Boards a reduction of 25 per cent, on the toll on merchandize transported on the canals of the two States. Should the recommendation be adopted, the reduction would take effect after the expiration of the present year. The great advantage of such a measure would be, it is supposed, to open to an extensive, populous, and wealthy region of country west and south of the southern extremity of the Ohio canal, a new and cheaper channel of communication with the sea-board—a region which now receives its supplies of merchandise, and transmits its agricultural productions, by routes less convenient and certain. Independently of the benefit which will be derived from the change by the district of country referred to, there is every reason to believe that the increased amount of transportation will keep up the aggregate amount of receipts on account of tolls; for notwithstanding the very considerable reductions made by our Canal Board during the last winter, it is now probable that the amount of tolls will exceed the sum received last year; and this can only be produced by a vast increase in the quantity of articles transported. Even should the receipts be diminished in a slight degree, for the first year, by the proposed reduction, the public will still be a gainer by having a larger portion of its capital and industry put into more active operation; and to no part of the State will it be of more importance, than to the city of New York, which will become the market for the new district thus opened to it.—But it is hardly to be apprehended that a reduction of 25 per cent. on a single item of transportation will produce any falling off in the aggregate amount of tolls—certainly none to be put in competition with the great public benefits which are likely to result from it.

On Wood Rails and Cast Iron Plates. By H. R. D. To the Editor of the American Railroad Journal.

SIR,—Having recently noticed in your valuable Journal a highly interesting discussion on the ultimate wear and strength of wrought and cast iron bars, when adapted to railroad purposes on wood as well as of stone, I now beg ave, through the medium of your journal, to offer a few remarks for the amusement of your readers, if not for their information, on the subject of wood rails and cast iron plates. In discussing the question in point, care should be taken to fix a data whereby the man of experience is enabled to direct just and conclusively. How it is that the wood rail lasts no longer than from five to six years, at present, I am unprepared to answer, unless from the inferiority of the same before laid down. One thing is well known, and that by many in this city, that pitch pine has been used for cisterns, which are alternately wet and dry, for the space of from twenty to thirty, and fifty years, when from various causes they have been taken up, and to the surprize of many were as sound as when put down. This was pitch pine, without any sap whatever, and this, too, what I would propose and prefer to stone in all cases where it could be obtained. Its cost is much less, more readily transported, less for labor on the same, and greatly facilitates the building of the road. In wet and spongy places it is highly preferable, as it would need regulating no oftener than half the expense to adjust it. This, covered with cast iron plates three inches wide and three-quarters thick, if practicable, in all cases to cast them in chills, say twelve feet long, so much the better, as the iron is so much stronger than when cast in an ordinary sand mould. I think, speaking from memory, that iron cast in a chill is as twenty-seven to thirteen—nearly a half stronger. This was the case in a number of experiments made in this city, in the presence of several respectable practical men, myself being witness to the same. The experiment was tried with rollers cast in a chill, and those cast in the ordinary manner. The result was, to the best of my recollection, as is stated above. However, if it is of any consequence, I can state the exact comparative strength between the same, there shown, much might be said for the wood rail, and

cast plate. But the public in most cases have set their faces against it, and no man dare advocate the same unless at a risk of personal reputation. But the day is not far distant, in my opinion, at least, when wood rails and cast bars will be most generally used. Yours, most respectfully,

H. R. D.

Mercator on Mr. Sullivan's Plan for protecting Timber for Railroads. To the Editor of the American Railroad Journal.

Sir.—The writer hereof made some remarks in the 28th number of your Journal on Mr. Sullivan's proposed method for protecting timber from decay, which has caused a reply from Mr. S. in your 29th number, which reply being not satisfactory, I propose exceptions to it.

In my former communication I adverted to the fact, that the Arcade, lately taken down in this city, stood but *seven years*; that the *ends* of the timbers, in damp situations, incased with lime and stone, were decayed, and found to be but *dust*, in consistency, that would blow away with the wind; and, when timber is brought to *this* consistency in seven years, we may reasonably suppose that the wood must have been divested of its common strength in a comparatively short portion of that seven years. Mr Sullivan, in reply to this fact, states that "the explanation of the decay of the sleepers of the Arcade, in seven instead of forty years, is, that they were not only in an unventilated place, but in contact with *green mortar* of common lime."

If Mr. Sullivan will make experiments with common lime, hydraulic lime, or Roman cement, he will find that each and all of them, on one and the same principle, if placed in *damp situations*, will *continue* to be, in that sense of the expression, "green mortar," or "green cement," and there was no deficiency of ventilation in the interior of the Arcade.

I stated, at the commencement, that Mr. Sullivan's reply was not satisfactory; and I am sorry to find in any writer who exposes his writing in a public journal, a disposition to coin expressions, *attribute* them to *others*, and then to allude to them as "absurd:" it is unfair—if done intentionally. The "coined" expression of Mr. Sullivan may be discovered in his following paragraph, which I quote, wherein he stated that "He (Mercator) says that Roman cement and *pitch* will absorb water by capillary attraction; this is *rather absurd, and actually contrary to experience.*" Now, I deny any such expression: *I well know* that a coating of pitch is impervious to water. The *true words made use of in my communication are as follows:* "*Wood* cannot be kept dry in a wet or damp situation by the application of cement of common lime, *water lime*, or *Roman cement:* all three of them are conductors of water by *capillary attraction.*"

I commented upon the article of "pitch" in a distinct sentence, as follows: "As to pitch, if placed in a damp situation below the surface, it is of but short, a few months, duration. This may be observed upon a vessel's bottom, used either in fresh water or salt." Thus I clearly show the error of Mr. Sullivan's remarks on that subject.

With allusion to *cement*, Mr. Sullivan states as follows: "If it were, as 'Mercator' suggests, rolled up in a ball and placed in a plate of water, it is *probable* it would, *while green, absorb among its particles* some water. In building walls of locks, the water is not let in till the mortar has *had time to set.* Why, then, should it not set among fragments around a post?" In answer to this query, it may be stated, that it *will set* among fragments around a post; and if *good*, will *quickly* set. In making experiments I have known it to set in a single hour: so that it remains "green," as Mr. S. seems to suppose, but a short time. But the *fact* of its setting does not change another fact, that in its *nature* it is a *conductor* of water by *capillary attraction* after being so set.

I have in my possession a great number of *balls* of the most approved hydraulic lime and of Roman cement, which were formed in the year 1827, for the purpose of experiments; and since reading Mr. Sullivan's communication, I have placed a number of those balls, (*lower surface only,*) in contact with water, with a view to determine whether age produced any change in their capillary attractive nature; and the result was, that the *water* could be distinctly seen on the outer surface to *ascend*, so that in a few minutes the water became absorbed in the interstices of the balls, and in quantity equal to about two-fifths the bulk of the balls. I will with pleasure send some of those cement balls to your office, at request, if any one wishes to witness the effect. The balls are nearly of the consistency of hard stone. I think, therefore, it is reasonable to suppose that any substance placed in contact with a post, which would absorb and retain in contact for an uncertain time a quantum of water, probably to be imparted through the medium of the post, would continue the post in a *damp state* longer than if not covered by such substance, and thereby hasten its decay.

Even if it were possible to apply a lasting substance upon timber, rendering it *entirely impervious* to water and air, there is no certainty that the timber would be preserved by it. The least dampness remaining within the coating would cause dry-rot. I am informed that as a precaution in building a favorite ship, owned or built some years since in Baltimore, her timbers were made impervious to water or air by a coating of *varnish:* the result was, that after about six years the owners were surprised to observe her timbers generally so reduced to a dusty substance by dry-rot, in the interior part of them, as to cause the ship to be condemned as not worth repair. These things may be well understood by the study of the unerring principles in nature. Mercator.

New-York Guard Rail—U. A. Boyden in reply to R. Bulkley. [For the American Railroad Journal.]

Lowell, July 23, 1833.

Mr. Editor,—I presume your readers have had arguments enough offered, to convince them as to the utility of Mr. Bulkley's Guard Rail, and perhaps more quibbles than those who read merely for information can desire. It is chiefly to correct some imputations, that I make any reply to Mr. Bulkley. Though he has given many words in reply to me, he has advanced no fact against my assertions, nor has he given any potent argument in support of his own. My design in wri ing is rather to impart useful information than to cavil: I therefore shall make but a short reply to his quibblings.

Mr. Bulkley seems not much pleased with logical deductions from known data. We frequently hear it asserted by people, whose theories are all vague notions, that what is here in theory is proved erroneous by practice, and that theory, if followed, would lead astray—therefore it is a false and dangerous guide. When people thus proscribe theory, they merely give information of their being incapable of abstract reasoning.

Mr. Bulkley in endeavoring to make it appear that my statements are at variance with Mr. Sullivan's, quotes the following passage from my writings, "hence the wrought iron rail may be nearly or quite torn asunder without any extraneous force being applied to the rail." After which he quotes the following words from Mr. Sullivan, "loose in the bore," meaning the malleable iron rail; and then adds "I therefore quote enough of their own words to show that they are not only inconsistent with each other," &c.

If Mr. Bulkley can conceive of a malleable iron bar's being within a hole in a cast iron bar, the hole being larger than the malleable iron bar, and at the same time the malleable iron bar's being strained longitudinally, he will be able to perceive that Mr. Sullivan's and my statements on this subject *can* both be true. Further, if he can conceive of the malleable iron bar's being longer than the cast, and its ends larger than the calibre of the cast bar, and can conceive of the malleable bar's shrinking, he will then comprehend *how* it could be strained longitudinally, while the main body of it is not large enough to fill the calibre. When I first wrote on this subject, I stated that the shrinking of malleable iron by diminution of temperature, was more than that of cast iron, and that if the ends of the malleable iron bar were so constructed that it cannot slip in the cast iron, the bar may be strained, &c. I did not say whether it was an easy matter to make the malleable bar so that it could not slip in the cast iron.

Mr. Bulkley speaks continually, in his writings, of his rails being approved by eminent engineers who have "examined the rail in full size," whose names he does not give. Now I would inform Mr. Bulkley, (I do not suppose any other person ignorant of the fact,) that people do not give much credit to such pretexts, made by a person under such circumstances.

In my first communication on this subject, I quoted a passage from Mr. Wood's Treatise, which passage was not originally written by Mr. Wood, but he approved the sentiments it contained; I therefore quoted it as containing his sentiments. The reasons of my preferring this passage, I gave in my last communication. This quotation was taken by Mr. Wood, from a report of Mr. Stephenson, chief engineer of the Liverpool and Manchester Railroad. But Mr. Bulkley, in his first reply to me, in attempting to make it appear that I had prevaricated or got something wrong, said that if, I would refer to Wood's Treatise, I should find that "the remarks were made by Mr. *G. Stevenson.*" There being an engineer by the name of Stevenson, and two by the name of Stephenson, employed on railroads in England—though he failed in his attempt to correct me—I am none the less grateful to him.

Mr. Bulkley, in his last reply to me, denies having accused me of inconsistency in my writings. I know not whether he intended to accuse me of inconsistency, but it was clearly expressed. His accusation is in the following words: "In the course of my remarks, I shall show, that U. A. B. if sincere in his statements is not only actuated by erroneous impressions, but that his statements manifest a *want of consistency* in allusion to the subject, and a want of consistency compared with a previous statement on the same side of the subject made by Mr. S." He admitted that the latter part of this quotation implied that some of my statements are at variance with Mr. Sullivan's, which he failed to substantiate; but he says that no part of it implies that my statements are inconsistent with each other. He seems to imply that he meant that my statements were in opposition to experience; but he has given nothing like an interpretation of. Every master of the English language knows that the word, *consistency*, as applied to writings, signifies that the parts agree or stand together, or that it is not self-contradictory; it never implies that the writing is either true or false, or that it either agrees or disagrees with any thing not stated in the writing.

Mr. Bulkley speaks continually in his communications of "examining the rail in full size,"

as though he thought that no person could understand the subject without doing it. The principles on which it is constructed, and its properties, can be readily communicated by writing by people versed in such matters. We can imagine a piece of iron of any shape, and we know that rails may be made of any desirable shape. Looking at rails would merely inform us whether the workmanship of the rails we saw was good. Their strength or liability to breaking can be determined only by experiment, or by calculation from the known properties of the material.

Mr. Bulkley implies that I must be ignorant of the subject because I have not seen his *specification*—frequently mentioning the Guard Rail as having been patented by himself. He says he has, "in proper place in my *specification*, stated wherein it [the Guard Rail] differs from all other rails." In Vol. 2, No. 14, of the Railroad Journal, he says, "The New-York Patent Guard Rail, for which the patent right has been received in the United States and in Europe." Yet, previous to the current month, no letters patent for New-York Patent Guard Rail, or for a rail under any other name, had been issued to him from the Patent Office of the United States. In proof of which I have the authority of the superintendant of that office.

It seems by Mr. Bulkley's bestowing his slander profusely on me, that he is a little out of humor. This I anticipated. An inventor, who has spent much time and money in, as he thinks, perfecting his important invention, cannot be convinced that it is a futile and worthless contrivance without extreme vexation. He, like a person who has had an ulcer cured by painful measures, will often feel ill-will towards his benefactor.

In my second communication on this subject in several places, I put a noun, the word *iron*, in the possessive case, before the present participle; in printing, the apostrophe and s were improperly omitted. URIAH A. BOYDEN.

Philadelphia and Baltimore Railroad, by the way of Oxford—extracted from the Report of Edgar Thompson on a Survey of the Oxford Railroad. [From the Pennsylvania Inquirer.]

PHILADELPHIA, May 31, 1831.

GENTLEMEN,—In compliance with your request of the 20th ultimo, "that I would ascertain the practicability of constructing a rail-road between the Pennsylvania railway in the great valley and the Susquehanna river, in the vicinity of Port Deposit, I have now the honor to submit for your information, the following report on my examination, accompanied by a plan and profile of the route, explanatory of the same.

Before proceeding to the location of a railway it is necessary to ascertain the nature and state of the trade to be accommodated, as on the result of this inquiry considerable dependence should be placed in selecting the preferable route.

The principal object obtained by the completion of the road will be a medium of transportation between Philadelphia and Baltimore, that shall be uninterrupted at all seasons of the year. The conveyance of *passengers*, *light parcels*, and the *mail*, will, therefore, be a chief source from which the Company are to derive their revenue, and, in all probability, the amount of this trade will be equal in opposite directions.

A second object of the road, and which is thought by some, to be of scarce less importance to the profit of the undertaking than the first mentioned, is the conveyance of lime and limestone, articles indispensable to the agriculturists of the districts through which the road will pass. As the route commences in, and immediately leaves the limestone formation, this trade will be carried wholly in the direction towards the Susquehanna river.

Several other sources might be enumerated from whence the revenue of the company will be materially augmented; such as the conveyance of agricultural products, and the carriage for the numerous mills, forges and factories in the vicinity of the line. But the two leading objects first above referred to should alone influence the direction and cost of the road.

Having now given a general view of the nature of the traffic anticipated, the principles that should govern the selection of the route, so as to ensure the accomplishment of those objects by the most safe and economical means of conveyance, comes next to be considered. These may be summarily stated to consist in disposing the inclination (and horizontal curvature) of the road, so that the cost of construction may be the least possible, compared with that of transportation.

A primary object, therefore, being celerity and safety of transit, horizontal curvature should be avoided as far as practicable, or its radii increased to as great an extent as is consistent with a due regard to economy.

The preponderance of trade, however, will be in the direction towards the Susquehanna river. Did the face of the country permit, there could be no doubt of the superiority of locating the road with an uniform slope, such that the motive power used to transport the relative amounts to be conveyed in each direction should be a minimum; but as this can seldom be attained without an increased length of road, or encountering heavy excavations and embankments, the most that can be anticipated is an average incline of moderate deviations from uniformity.

"This, with little exception, is obtained in the present instance in an eminent degree.

From this slight reference to the character of the trade, and the principles that should govern the location of the road, I will now proceed to give a general description of the country intermediate to the Pennsylvania railway and Port Deposit, which will serve to show that the project is not only entirely practicable, but its execution can be effected for a sum so limited, that a profit on the investments may be fairly anticipated at least proportionate to the cost of construction.

GENERAL DIRECTION OF THE LINE.—It will be seen by a geographical view of the district under consideration, that the waters of the Susquehanna river are parted from those falling into the Delaware river and the east side of Chesapeake bay, by a ridge which traverses its whole extent, almost in a direct line from the Pennsylvania railway to near Port Deposit.

This prominent feature of the country readily suggested the general direction of the route most advantageous for the proposed road.

Its course, diverging from the Pennsylvania railway, where it crosses this dividing ground, 45¼ miles from Philadelphia, was traced along its summit, passing through Cochranville, Edentown, Russellville, Haysville and Oxford, and thence intersects the Susquehanna about half a mile above Port Deposit.

The character of the country so evidently marks out the general line of the road, that examination for a different route was thought wholly unnecessary. The direction of the line traced, however, may be materially improved in its detail, when a more minute survey shall have been made.

Following the summit of the ridge, few difficulties will be encountered in the construction of the road. The south valley hill, the most important impediment, crosses the trace of the route near its beginning, stretching east and west, and is only passed by a considerable excavation through the narrowest part of the ridge. The line rising at an inclination of 44 feet per mile.

Near the state line an embankment of 22 feet in height, at what are called the Barrens, and a short excavation, 30 feet in depth, through the ridge dividing the waters of Octorara creek and Rock run, beyond the Battle-swamp Tavern, constitute the only remaining difficulties worthy of mention. When it is considered that these occur on a line 31¼ miles in length, whose remarkable feature is *that not a single bridge or culvert* is necessary, as no water-courses, save one or two small spring runs, are crossed in the whole distance, (and those in Maryland,) the location will be thought an unusually favorable one.

The line alternately ascends and descends, conforming, as near as the principles of the location will permit, to the natural face of the ground, and has been divided into the following graduations:

TABLE OF GRADIENTS.

Ascending,—	2m.	30ch.	at 44 ft. per mile	
	1	00	at 30 do.	do.
	2	70	level	
	4	32	at 14 do.	do.
Descending,—	1m.	20ch.	at 44 ft. per mile.	
	6	65	at 6½ do.	do.
	5	06	at 30 do.	do.
	1	60	at 26½ do.	do.
	4	02	at 14½ do.	do.

Total distance, ascend, 7¾ miles. Level, 2⅞ miles. Descend, 19 miles.

It will be perceived that with the exception of the rise at the South Valley hill, the inclination on no part of the line exceeds 30 feet per mile, and the places are few, and the distances short, where even the latter grade is used. On two-thirds of the whole distance the inclination is less than 15 feet per mile, and in accordance with the principle stated in a previous paragraph, is traced chiefly descending.

The road, therefore, from its moderate graduations and freedom from sharp curvature, the radii of which being in no place less than 1,000 feet, is well adapted to the advantageous use of locomotive power.

The descent at the Susquehanna river is effected by a plane falling one in 23. As water can be obtained for the moving power on this plane, the cost of transportation on it may be considered no greater than on other portions of the line, and its moderate slope will free it from all risk in descending it.

My opinion of the facility or difficulty of grading the road bed will be best seen by consulting the following estimate of its probable cost.

Summary estimate of forming the bed of the road for a double railway, 25 feet in width:

Section—			
No 1. From Penn. rail. to Futhy's,	3m.	50ch.	$33,400
2. From Futhy's to Cochranville,	2	30	3,060
3. Cochranville to Fog's Manor M. H. road	1	60	1,905
4. Fog's Manor M. H. road to Russelville,	2	34	1,752
5. Russelville to Haysville,	1	65	3,250
6. Haysville to Oxford	2	60	3,896
7. Oxford to Port Deposit road,	2	00	2,648
8. Port Deposit road to the Barrens,	1	75	4,655
9. The Barrens to Md. State line,	1	40	8,834
From the Penn. rail. to the Md. line, which is to be made by the Ox. Rail. Co.	20	14	63,400
10. From the state line to Conowingo road,	1	40	1,180
11. From the Conowingo road to M'Cready's	1	60	1,360
12. From M'Cready's to M'Graw's M.H. road	2	10	2,400
13. From M'Graw's M. H. road to Battle-Swamp,	2	40	6,510
14. From Battle-Swamp Tavern to inclined plane,	1	46	12,900
15. To the river Susquehanna,	1	50	9,850
Total cost of forming the bed of the road,	31	20	97,600
Cost of that portion in Md.	11	6	34,200

A double railway may be constructed of wooden string-pieces, and wooden cross sleep-

ers, &c. &c. laid complete, at $8,000 per mile, which, for 31¼ miles, is $250,000
Road bed as per estimate 97,600
Machinery, &c. at plane 11,000

358,600
Add for superintendance and unforeseen contingencies 35,800

394,400

It will be seen from the above estimate that the average cost per mile of the whole line is $12,030. Of that portion in the State of Pennsylvania called the "Oxford Railroad," 20¼ miles, $12,655 per mile.

The coet of forming the bed of the railroad for a double way, and laying a single road (with suitable turn outs) will not exceed $9,000 per mile. This plan it would be adviseable to persue in the first instance. Under a well regulated system of transportation, it will be calculated to accommodate all the trade on the the road, and a second track may ae added as this increases.

The superstructure is estimated to be of wood, plated with 5-8 inch bar iron, which plan is advised as being best adapted to this country.

In conclusion I will remark, that in consequence of the peculiar formation of the country, and cheapness of construction of your road, together with its large amount of local trade, so becided superiority is given to the route tracec, that no "opposition line" may be anticipated. The distance from Philadelphia to Port Deposite is 76¾ miles.

All of which is respectfully submitted by
Your obedient servant,
JN. EDGAR THOMSON,
Civil Engineer.

In connection with the foregoing, Mr. T. made a reconnoisance of the ground between Baltimore and Port Deposite, which resulted very favorably, making the distance 41¼ miles, or 118 miles from city to city, by railway; but as this part of the line has since been taken up by the Baltimoreans, and is uow being prosecuted, (the stock having been subscribed, see Mr. Freeman's letter,) it is thought unnecessary embody his remarks on that part of the subject.

It may be well to mention that the books for the section from Port Deposite to this line,, 11 mileswill be opened in the course of a short time. The whole distance for which the stock has not yet been subscribed, is only 31¼ miles.

The followiny letter has been received:

By request I have examined Mr. Thomson's redort and plans of the Oxford Railroad; I concur with his remaks on the subject, and believe the estimate for forming the road to be liberal in all its items.

From the description given of the line by Mr. Thomson in his report, I should consider the route both practicable and highly favorable for a railroad. (Signed.) JOHN WILSON,
Chief Eng. of the Penn. Railroad.

ITHACA AND OWEGO RAILROAD.—We are gratified to be able to state that the railroad company are making the most energetic and commendable exertions for the early completion of this work. We understand that the rails are laid and laying on 8 or 10 sections of the road —that the iron for the rails and spikes has all been contracted for, and has arrived at Albany —150 tons of which has been received on the road at the Inlet, in this village—and that the directors and engineer have determined that about one half of the route, (to where it intersects the turnpike to Owego,) will be completed for the winter business, and the whole route for the spring business.

In connexion with this, we rejoice to learn that the prospect is favorable for an early extension of our railroad communication to the city of New-York, through the New-York and Erie railroad. The amount of stock required to be subscribed for the commencement of this important work, and which is to be applied to its construction from New-York to the Susquehannah river, being one million of dollars, has been recently taken up in New-York. This great work will of course connect with our railroad at Owego, and though it will doubtless be ultimately extended to Lake Erie, through Tioga, Steuben, Allegany, and Chatauque counties, still it will form a line of communication from Ithaca to New-York for some time before the western section can be constructed; and its connection with the north-western counties through the Ithaca and Owego railroad, wil always be an important branch, and be of incalculable advantage to the line of villages from Owego to Buffalo. While the cities and villages on the eastern section of the Erie canal are turning their attention to the construction of railroads parallel to that great work, perhaps the citizens of the cities and villages on the western division may be induced to turn their attention to a channel of communication with our great commercial emporium, much shorter and more expeditious. Such a channel is offered by the works now in progress and preparation, and we trust they do not lack the energy and public spirit necessary to avail themselves of such advantages.—[Ithaca Chronicle.]

RAILROAD IN GEORGIA.—We are rejoiced to find, says the Savannah Georgian of July 27, that an effort is about to be made in our state to establish a railroad. Let one be but completed, and the evident advantages arising therefrom will open the eyes of our people to their true interests, rebuke the sloth which oppresses them, and awaken a spirit of state pride, which will impel her onward to the stand to which her resources, if aided by the intelligence of her sons, will exalt her. We take the following remarks and netice from the Athens Banner of the 22d instant:

"*Railroad.*—The interest that appears to be manifested by our citizens in the project of a railroad between this place and Augusta, adds confirmation to our opinions on the subject, which were alluded to two weeks since. Confidently believing the scheme practicable, and of the greatest utility, we hope to see it looked upon as it deserves. To this end we would urge the call of meetings of the citizens in every town and village interested in its success, that the subject may be fully discussed, and fairly brought before the people. If but a few enterprising individuals at first engage in it—let a company at once be formed—an act of incorporation obtained at the next session of the legislature—subscription books opened—and by that time money will not be wanting to complete the object. The entire stock, we believe, would be taken up immediately. We hope some of our influential citizens will call a meeting on the subject, and that without delay, that Athens may set the example in this important work.

"Since the above was written, we have received the following notice. The call, we hope, will be promptly responded to:

"*Railroad Notice.*—The citizens of Athens particularly, and of Clark county generally, who may feel interested in the undertaking, are invited punctually to attend at the Chapel on Wednesday next, at 5 o'clock, P. M., to enter into such arrangements as may be determined upon, to provide for the commencement of a railroad between Athens and Augusta. The importance of the subject, it is hoped, will insure a general attendance."

The Western Trade.—It is stated in the Cleveland Herald, that produce to the value of one and a half millions of dollars, was exported last year from that port, and that probably two millions of dollars worth would be exported the present year. Cleveland, as most of our readers know, is situated on the shore of Lake Erie, at the mouth of the Ohio Canal, and the far greater part of this produce has been received via the canal. Comparatively speaking it is quite recently also since this canal was opened; and if such be the results already—before commerce has assumed any particular channel, and before the district of country from which this amount of produce was drawn, is more than one-third peopled—what will they be, a few years hence?

The trade of the state of Ohio and adjacent portions of the fruitful West, constitutes a prize well worthy of competition. New York was first in the field, with her Grand Canal;—Pennsylvania then commenced her system of improvement by Canals: pushing them westward to the limits of her territory, and now contemplating a cross cut from her own canal to intersect that of Ohio. Then comes the magnificent undertaking of Maryland,—the Baltimore and Ohio Rail Road. In the contest for this mighty prize, Rail Roads must have a decided advantage over Canals.

Aware of this, at length, New York is about to put forth her strength in another effort. The trade of Ohio is the great object which she would secure by the newly projected rail-road, through her "southern tier of counties," from the city of New York to Lake Erie. The prize is worthy of the competition. —[Baltimore Patriot.]

We shall take pleasure in publishing further extracts from the journal of which the following is a commencement:

To the Editor of the American Railroad Journal:

SIR,—Having been frequently importuned by my friends to relate to them such scenes from backwood exploring expeditions as may have come within my observation, I send you a copy from a manuscript journal, as the most proper way through which for them to draw their amusement or instruction.

It is taken from parts of a continued story, and if worthy of a page in your Journal, you may insert it, and should I have time I will now and then send you some further extracts.

Arrival at the point of communication—parties mustered—force collected—instruments and tools unpacked. Down came the barouche with Charley's dun and the old bay before it, at a furious rate, from —— street; Charley didn't like the rattling over the pavement at all. What with this and two or three heavy lumber waggons, and the stowing away rods, flag poles, pike staffs, chains, levers, and instruments, constituting the efficient paraphernalia of a fully equipped exploring party—the hallooing of the men, swearing of the hostlers, and with now and then an order given in a lower key, the whole neighborhood of our hotel was in an uproar.

On the opposite side of the street, and on this side also, but at a respectable distance, were collected, here and there, groups of anxious, "stupid starers"; the windows of the surrounding habitations, and "*the house*," were occupied by its attentive and inquisitive inmates; and the novelty of such a sight in this *rather* out-of-the-way town, excused the fairer forms and fairer faces that were attracted to the balcony and piazza of the mansion. The old General's daughter condescended to wave her white 'kerchief to P. and W. as they left the town.

The moment a waggon arrived, each man was in the twinkling of an eye for "his seat"; thus again you might see some shrewd fellow that was fearful that, there not being sufficient room for *all*, and as he had not yet a seat, he *might* be among the unfortunate number who perhaps would have to "foot it," would shoulder in the most careful manner a long levelling rod, and approaching an assistant, inquire whether "the *rod* had not better go with this ere waggon?" Which, if answered in the affirmative, he would pick out some less fortunate one, who, perhaps, was at that very moment inwardly chuckling himself at his good luck; dislodge him, take his place, *because* "Mr. —— said this ere *rod* must go." It being an argument of that kind that always proved irrisistible, notwithstanding he ran the risk himself of being the next minute pulled out (if he did not follow up the argument of the *rod*) to make

way for the chief's or an assistant's huge trunk, that being an article that took the precedence of every thing else except his own more important body.

So pulling, and pushing, and crowding, all matters were at last disposed of in a satisfactory manner.

The Engineer-in-Chief proceeded to the carriage, accompanied by one or two of the Directors and Mr. P., they entered it and drove off, followed by the whole cavalcade, under the direction of Mr. W., with the bright instruments glistening in the sun, and the elevated pike staffs ornamented with station flags bristling by the side of every man on the outside seats, who had thus regularly disposed themselves of their own accord, behaving in the most circumspect manner, and feeling elevated a *grade* above their former companions, who stopped along the street sides to gaze with admiration upon the passing novelty. * * * * *

Thus situated they moved on, S—— impressing the minds of the Directors and P—— with tolerable notions of his abilities, and encouraging them with the hopes of a speedy location, and W——, changing his position from between William and Wyme for a seat by himself, was giving up to thoughts that were carrying him far, far from what was passing around. He had left his parents, his family, his friends, society, all, far behind him, and was burying himself alone and friendless into the depths of the native forest.

"What," he mused, "will my leisure moments be employed in; in conversing with these semi-barbarians, who have not one idea in common with me? Tired from the fatigue of the day's duties, separated for miles from my brother assistants, weighed down with these constant 'sines, tangents, and chords,' where shall I fly for rest, for communion of mind? * * *

* * * they love, they hate, they think, but they do not love the same *way*, neither do they love the same *things* as I do; yet still it may be of as sincere a *kind*, perhaps more so. They have but one like, and that is love; but one hatred, and that is revenge; their simple and rude minds know no distinctive grades in either passion, and their less elevated thoughts are adapted to their less elevated condition; how supremely unhappy were it otherwise. Ask the backwoodsman what is happiness, or, rather ask him (and he will understand you better), what is the boundary of his wishes? He will tell you, a good rifle, a healthy strapping wife, and good crop of grain; or, perhaps, he will place first in the list a pint of real Monongahela! What shall I gain by this sacrifice—shall learn to know a hemlock from a pine? No, no, not this; but I will learn to rise, rise in my profession; I will—and a sudden cant of the waggon, from a wheel running over a stump, reminded him of his seat, as he motioned his whole body in turning off the main road on which they had been riding, that ran along the foot of the hill; and proceeding on down a lane, bordered with shrubbery that crossed the valley, the barouche halted opposite a neat and beautiful cottage, that had just emerged from the surrounding foliage.

The whole party dismounted and followed Mr. S —— within its enclosure. W——, the vanity of whose thoughts we have just seen, meeting with such a reception where he had expected a mean log house, and meaner inmates, felt so abashed at the gentility of its inhabitants and the taste with which it was furnished, that, ashamed of his vanity, he slunk away into a corner of its trellised alcove.

In a few moments Mr. ——, (one of the directors,) introduced the gentlemen of the party to Mr. —— and his family, who by their kindness and suavity of manners, backed by a well provided dinner, soon made every one perfectly at their ease; the afternoon being given up for making all necessary preparation for the commencement of the survey on the morrow.

The venerable Countess de Grey who died the other day at her house in St. James's square (and who is succeeded in the title by Lord Grantham, now Earl de Grey) left behind her some of the most splendid pictures, painted by Vandyke, now in this kingdom. They are all in their original and pure condition, never having been varnished. The Earl de Grey, who is residuary legatee, and will inherit the great wealth of his near relative, retains likewise these grand specimens of Vandyke's pencil; but some pictures of less value, and the extremely curious old furniture and china will be brought to the hammer.

METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 23d to the 31st day of July, 1833, inclusive.

Date.	Hours	Thermometer.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.	Remarks.
July 23	6 a. m.	73	30.14	NE	light		clear	
	10	78	30.16	NNE—NNW	..	..	..	Arithmetical mean of the thermometer for the month of July, 74.14.
	2 p. m.	82	30.15	SW—SSE	..		..	
	6	76	30.12	SSE	moderate		..	
	10	72	30.12	SSW	..		..	
" 24	6 a. m.	69	30.05	SW	..		..	
	10	80	30.00	..	..		..	
	2 p. m.	91	29.94	SW—NW	..	..	..	
	6	78	29.96	NNW	..	..	.. —cloudy at 4½	
	10	75	29.98	..	..		thunder showers—cl'dy	Maximum height of the barometer in July, 30.25 in.—Minimum, 29.65 in.—Range, 0.60 in.
" 25	6 a. m.	74	30.05	..	..	N	cloudy	
	10	75	30.08	NNE	fresh	..	..	
	2 p. m.	79	30.11	..	..	WNW	..	
	6	72	30.11	SSW	moderate	SSW	.. —light showers	
	10	71	30.15	..	fresh	..	fair	
" 26	6 a. m.	63	30.20	NNE	moderate	W	..	
	10	70	30.21	N	..	SW	..	
	2 p. m.	79	30.19	SSW	faint	S	..	The observations of winds for July result as follows:
	6	73	30.15	SSE	light	..	..	
	10	69	30.13	..	..	..	..	
" 27	6 a. m.	66	30.12	SW	fresh	WSW	clear	From the North-Eastern quarter, including N. 15.
	10	74	30.00	..	moderate	..	fair	
	2 p. m.	84	29.95	..	..	..	..	
	6	80	29.81	..	fresh	NNW	..	From the South-Eastern, including E. 16¼.
	10	78	29.81	..	..	..	..	
" 28	6 a. m.	75	29.82	WNW	..	..	clear	
	10	85	29.89	..	..	SSW / WNW	fair	From the South-Western, 74.
	2 p. m.	83	29.95	..	strong	WNW	.. —wind at times violent	From the North-Western, 40¼.
	6	76	30.01	..	moderate	..	..	
	10	63	30.10	..	..	..	..	
" 29	6 a. m.	63	30.17	NNE	..	..	..	
	10	70	30.11	WNW—SW	..	..	..	The observations of the higher currents, as indicated by the highest observed clouds, result as follows:
	2 p. m.	77	30.04	SW—S	..	..	..	
	6	75	29.97	S—SSE	fresh	W	.. —gale fr eastward	
	10	73	29.96	E	gale	SSE	.. —scuds fr sw	
" 30	6 a. m.	75	29.76	SW	strong	SW	.. — ..	
	10	80	29.70	..	fresh	..	.. —light showers	
	2 p. m.	84	29 65	WSW	..	NNW	rain	From the North-Eastern quarter, 5
	6	76	29.72	NNW	..	..	cloudy	From the South-Eastern, 2.
	10	70	29.80	..	moderate		..	
" 31	6 a. m.	62	29.92	..	light		clear	From the South-Western, 65.
	10	72	29.98	..	..	NW	fair	From the North-Western, 54.
	2 p. m.	81	29.98	W	..	..	..	
	6	75	29,98	..	..	..	..	
	10	70	29.98	..	..	..	..	

METEOROLOGICAL RECORD, KEPT AT AVOYLLE FERRY, RED RIVER, LOU.

For the month of June, 1833—(Latitude 31.10 N., Longitude 91.59 W. nearly.)

Date. 1833.	Thermometer. Morn'g.	Noon.	Night.	Wind.	Weather, Remarks, &c.
June 1	75	84	81	S—high	clear—light flying clouds all day
" 2	76	87	81	S—light	.. — .. .. ..
" 3	71	85	78	..	.. —yellow figs ripe, and very large
" 4	71	86	80	..	.. —rain in the evening
" 5	70	86	80	..	..
" 6	71	87	79	..	..
" 7	73	88	78	..	.. —evening light showers and calm
" 8	72	81	78	calm	cloudy all day
" 9	73	85	79	W	clear all day
" 10	73	86	80	N—light	cloudy morning—clear evening
" 11	71	86	78	calm	clear all day—finished mowing first crops of clover and saved the hay
" 12	73	88	78	..	clear morning—evening wind W and cloudy
" 13	73	87	82	W—light	.. — .. calm
" 14	72	84	82	calm	.. —cloudy and thunder at night
" 15	76	80	80	..	cloudy—severe rain and thunder from 8 a. m. to 1 p. m.—cloudy all night
" 16	75	87	82	S—high	clear—flying clouds—evening calm
" 17	75	88	82	..	.. ..
" 18	76	88	81	..	.. .. —River rising
" 19	77	89	83	S—light	.. —evening light showers—calm
" 20	74	84	79	calm	cloudy morning—rain and thunder—evening clear
" 21	73	87	79	..	clear
" 22	76	89	79	..	.. morning—evening rain, wind SW—river risen ½ inch, and at a stand
" 23	76	86	80	SW—high	.. in the evening—wind W, light—night wind NW, high—tomatoes ripe
" 24	70	79	69	N—high	.. all day—night calm—finished gathering our crops of Irish potatoes
" 25	64	80	75	calm	.. .. —Red River falling
" 26	66	85	78	SW	.. .. —United States Snag Boats, Capt. Shreeve, from the raft went down, in all 4 steamboats
" 27	69	85	79	SW—light	.. ..
" 28	71	34	60	calm	cloudy all day — Red River has fallen this month two inches,
" 29	73	88	61	S	clear—light flying clouds — and is now 10 inches below extreme high
" 30	74	90	62	calm	.. .. — water of 1828.

Written Newspapers.—The desire of news from the capital, on the part of the wealthier country residents, and probably the false information and the impertinence of the news-writers, led to the common establishment of a very curious trade,—that of a news correspondent, who, for a subscription of three or four pounds per annum, wrote a letter of news every post day to his subscriber in the country. This profession probably existed in the reign of James I.; for in Ben Jonson's play, "The Staple of News," written in the first year of Charles I., we have a very curious and amusing description of an office of news manufactures:

"This is the outer room, where my clerks sit,
And keep their sides, the Register i' the midst;
The Examiner, he sits private there within;
And here I have my several rolls and files
Of news by the alphabet, and all put up
Under their heads."

The news thus communicated appears to have fallen into as much disrepute as the public news. In the advertisement announcing the first number of the "Evening Post," (Sept. 16th, 1709,) it is said, "There must be three or four pounds per annum paid by those gentlemen who are out of town, for written news, which is so far, generally, from having any probability of matter of fact in it, that it is frequently stuffed up with a *We hear*, &c.; or, *an eminent Jew merchant has received a letter*, &c.; being nothing more than downright fiction." The same advertisement, speaking of the published papers, says, "We read more of our own affairs in the Dutch papers than in any of our own." The trade of a news correspondent seems to have suggested a sort of union of written news and published news; for towards the end of the seventeenth century, we have *news letters* printed in type to imitate writing. The most famous of these was that commenced by Ichabod Dawks, in 1696, the first number of which was thus announced: "This letter will be done upon good writing paper, and blank space left, that any gentleman may write his own private business. It does undoubtedly exceed the best of the *written news*, contains double the quantity, is read with abundance more ease than pleasure, and will be useful to improve the younger sort in writing a curious hand."—[Companion to the Newspaper, England.]

Babbage on the Economy of Manufactures.

[Continued from page 485.]

Quicksilver cost £10 16 per cwt. Quicksilver worth £1, when manufactured into vermillion of average quality, became £1 81.

Metallic arsenic cost £1 4 per cwt. Arsenic worth £1, when manufactured into white oxide of arsenic, became £1 83—sulphate (orpiment), 4 26.

The price of cast iron was 8*s.* per cwt. Cast iron worth £1, when manufactured into household utensils, became £2 00—machinery, 4 00—ornamental, as buckles, &c. 45 00—bracelets, figures, buttons, &c. 147 00.

Bar iron cost £1 6 per cwt. Bar iron worth £1, when manufactured into agricultural instruments, became £3 57—musket barrels, 9 10—barrels of double-barrel guns, twisted and damasked, 238 08—blades of penknives, 657 14—blades of razors, cast steel, 53 57—blades of sabres, for cavalry, infantry, and artillery, &c. from 9 25 to 16 07—blades of table knives, 35 70—buckles of polished steel, used as jewellery, 896 66—clothiers' pins, 8 03—door-latches and bolts, from 4 85 to 8 50—common files, 2 55—flat files, cast steel, 20 44—horse-shoes, 2 55—iron, small slit, for nails, 1 10—metallic cloth, iron wire, No. 80, 96 71—needles of various sizes, from 17 33 to 70 85—reeds for weaving 3-4ths calico, 21 87—saws (frame) of steel, 5 12—saws for wood, 14 28—scissors, finest kind, 446 94—sword handles, polished steel, 972 82—cast steel, 4 28—steel cast in sheets, 6 25—cemented steel, 2 41—natural steel, 1 42—tinned iron, from 2 04 to 2 34—iron wire, from 2 14 to 10 17.

158. The following is stated by M. de Villefosse to be the price of bar iron at the forges of various countries, in January, 1825.

	Per ton.
France,	£26 10 0
Belgium and Germany,	16 14 0
Sweden and Russia, at Stockholm and St. Petersburg,	13 13 0
England, at Cardiff,	10 1 0

The price of the article in 1832, was 5 0 0

M. de Villefosse states that in France, bar iron, made as it usually is with charcoal, costs three times the price of the cast iron out of which it is made; whilst in England, where it is usually made with coke, the cost is only twice the price of cast iron.

ON THE DIVISION OF LABOR.

159. Perhaps the most important principle on which the economy of a manufacture depends, is the *division of labor* amongst the persons who perform the work. The first application of this principle must have been made in a very early stage of society; for it must soon have been apparent, that more comforts and conveniences could be acquired by one man restricting his occupation to the art of making bows, another to that of building houses, a third boats, and so on. This division of labor into trades was not, however, the result of an opinion that the general riches of the community would be increased by such an arrangement: but it must have arisen from the circumstance of each individual so employed discovering that he himself could thus make a greater profit of his labor than by pursuing more varied occupations. Society must have made considerable advances before this principle could have been carried into the workshop; for it is only in countries which have attained a high degree of civilization, and in articles in which there is a great competition amongst the producers, that the most perfect system of the division of labor is to be observed. The principles on which the advantages of this system depend have been much the subject of discussion amongst writers of political economy; but the relative importance of their influence does not appear, in all cases, to have been estimated with sufficient precision. It is my intention, in the first instance, to state shortly those principles, and then to point out what appears to me to have been omitted by those who have previously treated the subject.

160. First. *Of the time required for learning.* It will readily be admitted, that the portion of time occupied in the acquisition of any art will depend on the difficulty of its execution; and that the greater the number of distinct processes, the longer will be the time which the apprentice must employ in acquiring it. Five or seven years have been adopted, in a great many trades, as the time considered requisite for a lad to acquire a sufficient knowledge of his art, and to repay by his labor, during the latter portion of his time, the expense incurred by his master at its commencement. If, however, instead of learning all the different processes for making a needle, for instance, his attention be confined to one operation, a very small portion of his time will be consumed unprofitably at the commencement, and the whole of the rest of it will be beneficial to his master; and if there be any competition amongst the masters, the apprentice will be able to make better terms, and diminish the period of his servitude. Again: the facility of acquiring skill in a single process, and the early period of life at which it can be made a source of profit, will induce a greater number of parents to bring up their children to it; and from this circumstance, also, the number of workmen being increased, the wages will soon fall.

161. A certain quantity of material will be consumed unprofitably, or spoiled, by every person who learns an art; and, as he applies himself to each new process, he will waste a certain quantity of the raw material, or of the partly manufactured commodity. But whether one man commits this waste in acquiring successively each process, or many persons separately learn the several processes, the quantity of was tewill remain the same: in this view of thes ubject, therefore, the division of labor will neither increase nor diminish the price of the production.

162. Second. Another source of the advantage resulting from the division of labor is, that time is always lost from changing from one occupation to another. When the human hand, or the human head, has been for some time occupied in any kind of work, it cannot instantly change its employment with full effect. The muscles of the limbs employed have acquired a flexibility during their exertion—and those to be put in action, a stiffness during rest—which renders every change slow and unequal in the commencement. A similar result seems to take place in any change of mental exertion; the attention bestowed on the new subject is not so perfect at the first commencement as it becomes after some exercise. Long habit also produces in the muscles exercised a capacity for enduring fatigue to a much greater degree than they could support under other circumstances.

163. Another cause of the loss of time in changing from one operation to another, arises from the employment of different tools in the two processes. If these tools are simple in their nature, and the change is not frequently repeated, the loss of time is not considerable; but in many processes of the arts the tools are of great delicacy, requiring accurate adjustment whenever they are used. In many cases the time employed in adjusting, bears a large proportion to that employed in using the tool. The sliding-rest, the dividing and the drilling engine, are of this kind; and hence in manufactories of sufficient extent, it is found to be good economy to keep one machine constantly employed in one kind of work: one lathe, for example, having a screw motion to its sliding-rest along the whole length of its bed, is kept constantly making cylinders; another, having a motion for rendering uniform the velocity of the work at the point at which it passes the tool, is kept for facing surfaces; whilst a third is constantly employed in cutting wheels.

164. Third. *Skill acquired by frequent repetition of the same processes.* The constant repetition of the same process necessarily produces in the workman a degree of excellence and rapidity in his particular department, which is never possessed by one person who is obliged to execute many different processes. This rapidity is still farther increased, from the circumstance that most of the operations in factories, where the division of labor is carrid to a considerable extent, are paid for as piece work. It is difficult to estimate in numbers the effect of this cause upon production. In nail-making, Adam Smith has stated that it is almost three to one; for, he observes, that a smith accustomed to make nails, but whose whole business has not been that of a nailer, can make only from eight hundred to a thousand per day; whilst a lad, who had never exercised any other trade, can make upwards of two thousand three hundred a day.

165. Upon an occasion when a large issue of bank-notes was required, a clerk at the Bank of England signed his name, consisting of seven letters, including the initial of his Christian name, five thousand three hundred times during eleven working hours; and he also arranged the notes he had signed in parcels of fifty each. In different trades, the economy of production arising from this cause will necessarily be different. The case of nail-making is, perhaps, rather an extreme one. It must, however, be observed that, in one sense, this is not a permanent source of advantage; for, although it acts at the commencement of an es-

tablishment, yet every month adds to the skill of the workmen; and at the end of three or four years they will not be very far behind those who have practised only the particular branch of their art.

166. Fourth. *The division of labor suggests the contrivance of tools and machinery to execute its processes.* When each process, by which any article is produced, is the sole occupation of one individual, his whole attention being devoted to a very limited and simple operation, any improvement in the form of his tools, or in the mode of using them, is much more likely to occur to his mind than if it were distracted by a greater variety of circumstances. Such an improvement in the tool is generally the first step towards a machine. If a piece of metal is to be cut in a lathe, for example, there is one angle at which the cutting-tool must be held to insure the cleanest cut; and it is quite natural that the idea of fixing the tool at that angle should present itself to an intelligent workman. The necessity of moving the tool slowly, and in a direction parallel to itself, would suggest the use of a screw, and thus arises the sliding-rest. It was probably the idea of mounting a chisel in a frame, to prevent its cutting too deeply, which gave rise to the common carpenter's plane. In cases where a blow from a hammer is employed, experience teaches the proper force required. The transition from the hammer held in the hand to one mounted upon an axis, and lifted regularly to a certain height by some mechanical contrivance, requires perhaps a greater degree of invention. Yet it is not difficult to perceive, that, if the hammer always falls from the same height, its effect must be always the same.

167. When each process has been reduced to the use of some simple tool, the union of all these tools, actuated by one moving power, constitutes a machine. In contriving tools and simplifying processes, the operative workmen are, perhaps, most successful; but it requires far other habits to combine into one machine these scattered arts. A previous education as a workman in the peculiar trade is undoubtedly a valuable preliminary; but in order to make such combinations with any reasonable expectation of success, an extensive knowledge of machinery, and the power of making mechanical drawings, are essentially requisite. These accomplishments are now much more common than they were formerly; and their absence was, perhaps, one of the causes of the multitude of failures in the early history of many of our manufactures.

168. Such are the principles usually assigned as the causes of the advantages resulting from the division of labor. As in the view I have taken of the question, the most important and influential cause has been altogether unnoticed, I shall re-state those principles in the words of Adam Smith: "The great increase in the quantity of work, which, in consequence of the division of labor, the same number of people are capable of performing, is owing to three different circumstances: first, to the increase of dexterity in every particular workman; secondly, to the saving of time, which is commonly lost in passing from one species of work to another; and, lastly, to the invention of a great number of machines, which facilitate and abridge labor, and enable one man to do the work of many." Now, although all these are important causes, and each has its influence on the result, yet it appears to me, that any explanation of the cheapness of manufactured articles, as consequent upon the division of labor, would be incomplete if the following principle were omitted to be stated.

That the master manufacturer, by dividing the work to be executed into different processes, each requiring different degrees of skill and force, can purchase exactly that precise quantity of both which is necessary for each process; whereas, if the whole work were executed by one workman, that person must possess sufficient skill to perform the most difficult, and sufficient strength to execute the most laborious, of the operations into which the art is divided.*

169. As the clear apprehension of this principle, upon which so much of the economy arising from the division of labor depends, is of considerable importance, it may be desirable to illustrate it, by pointing out its precise and numerical application in some specific manufacture. The art of making needles is, perhaps, that which I should have selected as comprehending a very large number of processes remarkably different in their nature; but the less difficult art of pin-making has some claim to attention, from its having been used by Adam Smith, in his illustration of the subject; and I am confirmed in the choice, by the circumstance of our possessing a very accurate and minute description of that art, as practised in France above half a century ago.

170. *Pin-making.* In the manufacture of pins in England, the following processes are employed:

Wire-drawing. I. The brass wire used for making pins is purchased by the manufacturer in coils of about twenty-two inches in diameter, each weighing about thirty-six pounds. The coils are wound off into smaller ones of about six inches in diameter, and between one and two pounds' weight. The diameter of this wire is now reduced by drawing it repeatedly through holes in steel plates, until it becomes of the size required for the sort of pins intended to be made. During the process of drawing the wire through these holes it becomes hardened, and it is necessary to anneal it in order to prevent its breaking; and to enable it to be still farther reduced it is annealed two or three times, according to the diminution of diameter required. The coils are then soaked in sulphuric acid, largely diluted with water, in order to clean them, and are then beaten on stone for the purpose of removing any oxidated coating which may adhere to them. This process is usually performed by men, who draw and clean from thirty to thirty-six pounds of wire a day. They are paid at the rate of five farthings per pound, and generally earn about 3*s.* 6*d.* per day.

M. Perronet made some experiments on the extension the wire undergoes by this process at each hole: he took a piece of thick Swedish brass wire, and found its length to be before drawing, 3 feet 8 inches—after passing the first hole, 5 feet 7 inches—after passing the second hole, 7 feet 2 inches—and after passing the third hole, 7 feet 8 inches.

It was now annealed, and the length became after passing the fourth hole, 10 feet 8 inches—after passing the fifth hole, 13 feet 1 inch—after passing the sixth hole, 16 feet 8 inches—and finally, after passing through six other holes, 144 feet.

The holes through which the wire was drawn were not, in this experiment, of regular decreasing diameter; and it is extremely difficult to make such holes, and still more to preserve them in their original dimensions.

171. II. *Straightening Wire.* The coil of wire now passes into the hands of a woman, assisted by a boy or girl. A few nails, or iron pins, not quite in a line, are fixed into one end of a wooden table about twenty feet in length; the end of the wire is passed alternately between these nails, and is then pulled to the other end of the table. The object of this process is to straighten the wire, which had acquired a uniform curvature in the small coils into which it had been wound. The length thus straightened is cut off, and the remainder of the coil is drawn into similar lengths. About seven nails or pins are employed in straightening the wire, and their adjustment is a matter of some nicety. It seems that, by passing the wire between the first three nails or pins, a bend is produced in an opposite direction to that which the wire had in the coil; this bend, by passing the next two nails, is reduced to another of larger curvature in the first direction, and so on till the curvature is at last so large that it may be confounded with a straight line.

172. III. *Pointing.* A man next takes about three hundred of these straightened pieces in a parcel, and, putting them into a gauge, cuts off from one end, by means of a pair of shears, moved by his foot, a portion equal in length to rather more than six pins. He continues this operation until the entire parcel is reduced into similar pieces. The next step is to sharpen the ends: for this purpose the operator sits before a steel mill, which is kept rapidly revolving; and taking up a parcel between the finger and thumb of each hand, he passes the ends before the mill, taking care with his fingers and thumbs to make each wire slowly revolve upon its axis. The mill consists of a cylinder about six inches in diameter, and two and a half inches broad, faced with steel, which is cut in the manner of a file. Another cylinder is fixed on the same axis at a few inches distant; the file on the edge of which is of a finer kind, and is used for finishing off the points. Having thus pointed all the pieces at one end, he reverses them, and performs the same process on the other. This process requires considerable skill, but it is not unhealthy; whilst the similar process in needle-making is remarkably destructive of health. The pieces, now pointed at both ends, are next placed in gauges, and the pointed ends are cut off, by means of shears, to the proper length of which the pins are to be made. The remaining portions of the wire are now equal to about four pins in length, and are again pointed at each end, and their ends again cut off. This process is repeated a third time, and the small portion of wire left in the middle is thrown amongst the waste, to be melted along with the dust arising from the sharpenings. It is usual for a man, his wife, and a child, to join in performing these processes; and they are paid at the rate of five farthings per pound. They can point from thirty-four to thirty-six and a half pounds per day, and gain from 6*s.* 6*d.* to 7*s.*, which may be apportioned thus: 5*s.* 6*d.* the man, 1*s.* the woman, 6*d.* to the boy or girl.

173. IV. *Twisting and Cutting the Heads.* The next process is making the heads. For this purpose a boy takes a piece of wire, of the same diameter as the pin to be headed, which he fixes on an axis that can be made to revolve rapidly by means of a wheel and strap connected with it. This wire is called the mould. He then takes a smaller wire, which, having passed through an eye in a small tool held in his left hand, he fixes close to the bottom of the mould. The mould is now made to revolve rapidly by means of the right hand, and the smaller wire coils round it until it has covered the length of the mould. The boy now cuts the end of the spiral connected with the foot of the mould, and draws it off. When a sufficient quantity of heading is thus made, a man takes from thirteen to twenty of these spirals in his left hand, between his thumb and three outer fingers; these he places in such a manner that two turns of the spiral shall be beyond the upper edge of a pair of shears, and with the fore-finger of the same hand he feels these two projecting turns. With his right hand he closes the shears; and the two turns of the spiral being cut off, drop into a basin. The position of the fore-finger prevents the heads from flying about when cut off. The workmen who cut the heads are usually paid at the rate of 2½*d.* to 3*d.* per pound for large, but a higher price is given for the smaller heading. Out of this they pay the boy who spins the spiral; he receives from 4*d.* to 6*d.* per day. A good workman can cut from six to about thirty pounds of heading per day, according to its size.

174. V. *Heading.* The process of fixing the head on the body of the pin is usually executed by women and children. Each operator

* I have already stated, that this principle presented itself to me after a personal examination of a number of manufactories and work-shops devoted to different purposes; but I have since found that it has been distinctly stated in the work of Gioja, Nuovo Prospetto delle Scienze Economiche, 6 tom. 4to. Milano, 1815, tom. i. capo iv.

sits before a small steel stake, having a cavity, into which one half of the intended head will fit; immediately above is a steel die, having a corresponding cavity for the other half of the head: this latter die can be raised by a pedal moved by the foot. The cavities in the centre of these dies are connected with the edge by a small groove, to admit of the body of the pin, which is thus prevented from being flattened by the blow of the die. The operator with his left hand dips the pointed end of the body of a pin into a tray of heads; having passed the point through one of them, he carries it along to the other end with the fore-finger. He now takes the pin in the right hand, and places the head in the cavity of the stake, and, lifting the die with his foot, allows it to fall on the head. This blow tightens the head on the shank, which is then turned round, and the head receives three or four blows on different parts of its circumference. The women and children who fix the heads are paid at the rate of 1*s.* 6*d.* for every twenty thousand. A skilful operator can with great exertion do twenty thousand per day, but from ten to fifteen thousand is the usual quantity; children head a much smaller number, varying, of course, with the degree of their skill. The weight of the hammer is from seven to ten pounds, and it falls through a very small space, perhaps from one to two inches. About one per cent. are spoiled in the process; these are picked out afterwards by women, and reserved with the waste from other processes for the melting-pot. The form of the dies in which the heads are struck is varied according to the fashion of the time; but the repeated blows to which it is subject renders it necessary that it should be repaired after it has been used for about thirty pounds of pins.

175. VI. *Tinning.* The pins are now fit to be tinned, a process which is usually executed by a man, assisted by his wife, or by a lad. The quantity of pins operated upon at this stage is usually fifty-six pounds. They are first placed in a pickle, in order to remove any grease or dirt from their surface, and also to render that surface rough, which facilitates the adherence of the tin with which they are to be covered. They are then placed in a boiler full of a solution of tartar and water, in which they are mixed with a quantity of tin in small grains. They are generally kept boiling for about two hours and a half, and are then removed into a tub of water, into which some bran has been thrown: this is for the purpose of washing them. They are then taken out, and, being placed in wooden trays, are well shaken in dry bran: this removes any water adhering to them; and by giving the wooden tray a peculiar kind of motion, the pins are thrown up, and the bran gradually flies off, and leaves them behind in the tray. The man who pickles and tins the pins usually gets one penny per pound for the work, and employs himself, during the boiling of one batch of pins, with drying those previously tinned. He can earn about 9*s.* per day; but out of this he pays about 3*s.* for his assistant.

176. VII. *Papering.* The arranging of pins side by side in paper is generally performed by women. The pins come from the last process in wooden bowls, with the points projecting in all directions. A woman takes up some, and places them on the teeth of a comb, whilst, by a few shakes, some of the pins fall back into the bowl, and the rest, being caught by their heads, are detained between the teeth of the comb. Having thus arranged them in a parallel direction, she fixes the requisite number between two pieces of iron, having twenty-five small grooves, at equal distances; and having previously doubled the paper, she presses it against the points of the pins until they have passed through the two folds which are to retain them. The pins are then relieved from the grasp of the tool, and the process repeated with others. A woman gains about 1*s.* 6*d.* per day by papering; but children are sometimes employed, who earn from 6*d.* per day, and upwards.

177. Having thus described the various processes of pin-making, without entering into the minuter details, and having stated the usual cost of each, it will be convenient to present a tabular view of the time occupied by each process, and its cost, as well as of the sums which can be earned by the persons who confine themselves solely to each process. As the rate of wages is itself fluctuating, and as the prices paid and quantities executed have been given between certain limits, it is not to be expected that this table can represent with the minutest accuracy the cost of each part of the work, nor even that it shall accord perfectly with the prices above given: but it has been drawn up with some care, and will be quite sufficient for that general view, and for those reasonings which it is meant to illustrate. A table nearly similar will be subjoined, which has been deduced from a statement of M. Perronet, respecting the art of pin-making in France, about seventy years ago.

178. *English Manufacture.*—Pins, "*Elevens,*" 5,546 weigh one pound; "*one dozen,*" = 6,932 pins, weigh twenty ounces, and require six ounces of paper.

Names of the Process.	Workmen.	Time of making 1 lb.	Cost of making 1 lb.	Workman earns pr day.	Price of making each part of a pin in 1,000,000 of 1d.
		Hours.	Pence.	s. d.	
1. Drawing Wire, (§ 170)	Man .	.3636	1.2500	3 3	225
2. Straightening of the wire (§ 171) . .	Woman / Girl .	.3000	.2840	1 0	51
		.3000	.1420	0 6	26
3. Pointing (§ 172) . .	Man .	.3000	1.7750	5 3	319
4. Twisting and cutting the Heads (§ 173)	Boy .	.0400	.0147	0 4½	3
	Man .	.0400	.2103	5 4½	38
5. Heading (§ 174) . .	Woman	4.0000	5.0000	1 3	901
6. Tinning, or Whitening (§ 175) . .	Man .	.1071	.6666	6 0	121
	Woman	.1071	.3333	3 0	60
7. Papering (§ 176) . .	Woman	2.1314	3.1973	1 6	576
		7.6892	12.8732		2320

Number of persons employed: Men, 4; Women, 4; Children 2. Total, 10.

179. *French Manufacture.*—Cost of 12,000 pins, N. 6, each being eight-tenths of an English inch in length; with the cost of operation,—deduced from the observations and statement of M. Perronet,—as they were manufactured in France about 1760.

Names of the Process.	Time of making 12,000 pins.	Cost of making 12,000 pins.	Workmn usually earns pr day.	Expense of tools and materials.
	Hours.	Pence.	Pence.	Pence.
1. Wire				24.75
2. Straightening and cutting	1.2	.5	4.5	
3. Coarse Pointing . . .	1.2	.625	10.0	
Turning Wheel* . .	1.2	.875	7.0	
Fine Pointing . . .	.8	.5	9.375	
Turning Wheel . . .	1.2	.5	4.75	
Cutting off pointed ends	.6	.375	7.5	
4. Turning Spiral . . .	.5	.125	3.0	
Cutting off Heads . .	.8	.375	5.625	
Fuel to anneal ditto . .				.125
5. Heading	12.0	.333	4.25	
6. Tartar for cleaning .				.5
Tartar for whitening .				.5
7. Papering	4.8	.5	2.0	
Paper				1.0
Wear of Tools . . .				2.0
	24.3	4.708		

180. It appears from the analysis we have given of the art of pin-making, that it occupies rather more than seven hours and a half of time, for ten different individuals working in succession on the same material, to convert it into a pound of pins; and that the total expense of their labor, each being paid in the joint ratio of his skill and of the time he is employed, amounts very nearly to 1*s.* 1*d.* But from an examination of the first of these tables, it appears that the wages earned by the persons employed vary from 4½*d.* per day to 6*s.*, and consequently the skill which is required for their respective employments may be measured by those sums. Now it is evident, that if one person be required to make the whole pound of pins, he must have skill enough to earn about 5*s.* 3*d.* per day whilst he is pointing the wires or cutting off the heads from the spiral coil—and 6*s.* when he is whitening the pins: which three operations together would occupy little more than the seventeenth part of his time. It is also apparent, that during more than one half of his time he must be earning only 1*s.* 3*d.* per day in putting on the heads, although his skill, if properly employed, would, in the same time, produce nearly five times as much. If, therefore, we were to employ, for each of the processes, the man who whitens the pins, and who earns 6*s.* per day, even supposing that he could make the pound of pins in an equally short time, yet we must pay him for his time 46.14 pence, or about 3*s.* 10*d.* The pins would, therefore, cost in making, three times and three quarters as much as they now do by the application of the division of labor. The higher the skill required of the workman in any one process of a manufacture, and the smaller the time during which it is employed, so much the greater will be the advantage of separating that process from the rest, and devoting one person's attention entirely to it. Had we selected the art of needle-making as our illustration, the economy arising from the division of labor would have been still larger, for the process of tempering the needles requires great skill, attention, and experience; and although from three to four thousand are tempered at once, the workman is paid a very high rate of wages. In another process of the same art, dry-pointing, which is also executed with great rapidity, the wages earned by the workman reach from 7*s.* to 12*s.*, 15*s.*, and even, in some instances, to 20*s.* a day; whilst other processes in the same art are carried on by children paid at the rate of 6*d.* per day.

* The expense of turning the wheel appears to have arisen from the person so occupied being unemployed during half his time, whilst the pointer went to another manufactory.

AGRICULTURE, &c.

[*From the New-York Farmer.*]

FAIR OF THE AMERICAN INSTITUTE.—By a circular, dated July 4th, 1833, we perceive that the Sixth Annual Fair of the American Institute is to be held in this city on the 15th of October next. To the whole community this fair is of interest, affording to the manufacturer an opportunity to convince his countrymen of the increasing excellence of the products of one of the great sources of wealth to our prosperous country. To the mechanic, a place to deposit, for admiring crowds, the specimens of mechanical skill and ingenuity in the useful and ornamental arts of life. To the merchant, an evidence that American products are enlarging the sources of our commercial greatness. To the farmer, an opportunity to see what mechanical ingenuity is doing in improving agricultural implements, in inventing machinery, enabling him to increase the products of his farm, with less labor; and what positive evidence there is of the flourishing condition of American arts and manufactures, and of their varied and increasing calls on the numerous productions of the soil; and to the ladies, one of the most pleasing and profitable exhibitions of the articles of cultivated taste, to the improvement of which they have greatly contributed, and they are now again invited to make a display of those things that prove that the hand and the mind of the fair sex are not only adding to the refinements and comforts of domestic life, but augmenting the resources of national prosperity.

TROUBLESOME WEED, (*Lithospermum Arvense.*)—This weed, sometimes called steencrout, stone-weed and wheat-thief, is very troublesome in some sections of our State. A writer in the Genesee Farmer considers summer crops unfavorable to its progress, and that two crops of buckwheat in succession will subdue it.

PEACH STONES.—This is the season for preserving peach pits. They may be sown broadcast, or planted in drills, in autumn, and harrowed in, or covered to a very moderate depth.

PLANTING VINES DEEP.—N. Herbemont, in the Southern Agriculturist, advocates the plan of planting vines deep, and suppressing yearly the surface roots. Thus managed the fruit will not be subject to rot, as the roots will not be subject to such sudden extremes of moisture and dryness.

RAISING TURNIPS.—Mr. W. Keese, of Peru, N. Y. gives the following method of preparing his ground:

"I have raised very fine turnips for two years past, simply by fencing a small piece of ground about the first of June, ploughing it, and yarding my sheep on it, at night, until about the middle of July, when the seed was sowed and harrowed in. In this way I have not failed of having very large and very fine turnips."

COOKING CAULIFLOWERS.—This we consider one of the best vegetables that graces our table. Although it is almost universally acknowledged to be a superior vegetable, yet our gardeners find but little encouragement in raising the plant. The following directions for cooking it are from the Genesee Farmer:

"Cut off the middle size when close and white, trim off the outside leaves, cut the stalks off flat at the bottom, and let it lie in salt and water a little while; then put it into boiling water with a handful of salt in it; have plenty of water and keep the vessel uncovered; skim the water well until it is well parboiled. Next it should be immersed in cold water for some time, say fifteen minutes, till it is nearly wanted for the table, then on being boiled for a few minutes it will become more firm and crisp than if cooked in the usual way, that is, without being immersed in cold water. A small cauliflower will require from fifteen to twenty minutes, and a large one from twenty to twenty five minutes to cook; the rule is to take it up as soon as a fork will enter the stem easily, a minute or two longer boiling will spoil it, and its excellence may be destroyed by an ignorant or careless manner of preparing it for the table.

"It may be eaten with the gravy from the meat, or drawn butter, or with vinegar, as best suits. If it is designed to imitate green peas, a little loaf sugar, previously made fine, should be sprinkled over it immediately before serving. It should never be forgotten by the cook that the water must be boiling whenever the cauliflower is put into it, whether once or twice, and should be skimmed during the time it is cooking.

"O. T.

"Mediga, June 28, 1833."

RE-POTTING PLANTS.—Those plants that were not re-potted in the spring should be during this month; and those in small pots should be transferred to larger ones without disturbing the ball of earth.

BUDDING.—Those who neglected to attend to this pleasing operation in July, should not fail to make the most of August. The choicest roses may be budded on the common stocks. Young fruit trees, particularly the peach, can be propagated by budding. The most common method is cutting through the bark of the stock at right angles in the shape of a T, and carefully raising the bark sufficient to insert the bud. A piece of court or sticking plaster, some grafting-wax, or pieces of matting made oily, should be provided, to secure the bud. The sharper the knife used the better. The following directions for taking the bud are from Goodsell's Farmer:

"Holding the scion by the lower, and commence the cut about a quarter of an inch above the bud, scalping off a thin piece of the wood with the bark varying from half to three quarters of an inch in length. Taking this by the petiole or leaf stem, which should be cut to half an inch in length, slip the knife along upon the upper end, gently pressing the blade upon the surface, which, as it passes the point of the wood, will cause that to rise a little from the bark, slip the edge of the knife under it, and with the ball of the thumb press the wood between it and the knife, and raise it gently from the bark. When the wood is thus detached from the bark, examine whether that part of it which enters the bud has been torn away, if so, the bud is destroyed, and should be rejected. The wood of the bud should remain level with the bark, in order that, when set, it may rest upon and unite with the stock, otherwise the bud would die after setting, although the bark might unite perfectly."

CHERRY AND PEACH STONES.—These should be preserved much more generally than they are. Were farmers in the habit of preserving them, fruit trees would be far more common. By planting a few drills in the corner of the garden, the farmer would always be supplied with these trees to set out about his house, in his orchard, and in unoccupied places of his fields. The best way is to have a box containing earth, in which the stones, or pits, should be put, and covered while they are fresh; for, they often lose their vegetating property, if allowed to become very dry. In the spring they can be planted.

GOODSELL'S GENESEE FARMER.—We have received the first number of a weekly periodical with this title, published at Rochester, N. Y. Mr. Goodsell has been extensively and creditably known as the editor of the Genesee Farmer, commenced two or three years ago at the same place. The exertions of Mr. G. to improve the condition of agriculture, entitle him to general encouragement, particularly of western New-York.

FARMER'S JOURNAL.—A monthly periodical, in quarto form, has just made its appearance at Rutland, Vt. under the editorial charge of E. Maxham. Both the editorial and selected matter bespeak its usefulness.

New-York State Agricultural School—Hamilton College. By A PRACTICAL FARMER. [For the New-York Farmer.]

MR. EDITOR,—In your June number, page 163, is an article on the important subject of a State Agricultural School. I like your ideas much, with the exception of those in the close of the article. You there say that, "in case the experimental farm is connected with the college, it will be requisite to substitute some studies more intimately connected with agriculture for those much less so, for the agricultural students. The society should have a vote in the government of the college, and the appointment of the superintendant of the farm, and of the gardener." In respect to the studies, the reverse should be the arrangement; they should be selected and adapted to the wants of those who are intended for agricultural life, and some of these studies should be dispensed with, and others attended to in their place, to accommodate those who intend to pursue other callings. Let the institution be agricultural in all its characteristic traits. Let all the students be required to labor, and become acquainted with the practical details of farming and gardening operations. The government, too, should be principally under that of trustees appointed by the society, and the legislature, or regents of the university.

It is well known that this once flourishing and very promising college labors under many embarrassments. By a notice in the Utica Sentinel of the 9th July, I perceive a second and last appeal to the inhabitants of that place, calling upon them to take immediate measures for its relief. Should the appeal fail, "the doors of the college," says the writer, "will be closed." I do not know the result of that meeting; but I am very sanguine that the present friends of the college would find their views more fully promoted, by converting it into an agricultural institution, than persevering in this present struggling and agonizing course. Let the contemplated change go into full operation, and students would flock to the institution from all parts of the United States. Let it be conducted with prudence, judgment, and ability,—it would be continually increasing in the affection of the people at large. The prejudices of the farming community would rapidly wear away, and they soon would become its most devoted and permanent supporters. In this section of the state the union of labor and study, of theory and practice, meets with increasing admirers among farmers. A PRACTICAL FARMER.

Vernon, N. Y. July 15, 1833.

Simple Apparatus for Preparing Silk Cocoons for Reeling. By R. M. W. [For the New-York Farmer.]

Mr. Brewer's suggestion about reeling silk, is an improvement on the usual practice, but I think is yet susceptible of amendment. Make a box 12 inches square, 2½ feet long, of inch boards, put on a bottom and bore 4 or 6 holes near the edges, on the inside lay a square board smaller than the bottom by an inch all round the sides; cover the spaces between the sides and false bottom with tin, with small holes punched like a lantern, then put on the cover with hinges, which cover should be forced with a small gimblet in squares of one inch; take a coffee pot, put in it half a gallon of whiskey, or any cheap proof spirits; set the coffee pot on some live coals and the spirit will soon boil, and the steam will pass off through the spout, and may be easily led into the bottom of the wooden box. Let the box be filled with cocoons, and the hot steam thrown on them; it will soon kill all the millers, and dissolve the gluey matter of the cocoons, which will reel much better than from the water-bath. The steam of the spirits is a much greater solvent than water; the holes in the cover will lead the steam through the box, and the tin and holes at the bottom will allow any water to escape, which may be condensed during the operation. I hope yet to see the silk culture and reeling very extensively attended to in our country, and think much improvement will be made after a little experience. Yours, &c. R. M. W.

Potter, July 4th, 1833.

To destroy the Canada Thistle. By W. W. POWELL. [For the New-York Farmer, and American Gardener's Magazine.]

MR. EDITOR,—Your Farmer of this month has just come to hand, in which I perceive an inquiry by A. K. B. respecting the destruction of that pest, the Canada Thistle. Many plans for the attainment of that object are already before the public, but there is one which I do not recollect to have seen published. It was mentioned to me by an aged man, who has had long experience as a farmer. He assured me that he had frequently tried it, and had not in a single instance failed of success. The plan is, to mow the thistles immediately after a *honey dew*. This information being recent to me, has deprived me of the opportunity of testing its truth by actual experiment, but shall do so as soon as an opportunity is afforded. When the honey dew has fallen, may be known by touching the tongue to a leaf which is wet with it. Every farmer probably knows that honey dew is sweet; let them try the experiment, if it should prove successful, it is an easy way of extirpating what every farmer should wage war with, until this enemy, so very tenacious of life, is completely routed. Respectfully,

WESTEL W. POWELL.

Milton, Saratoga county, June 18, 1833.

POTATO PUDDING.—In the hands of an economical housekeeper, no vegetable can afford a greater variety of cheap and wholesome preparation than the potato. The following is Dr. Kitchener's direction for a cottage potato pudding:

Peel, boil, and mash, a couple of pounds of potatoes; beat them up into a smooth batter, with about three quarters of a pint of milk, two ounces of moist sugar, and two or three beaten eggs.

Bake it about three quarters of an hour.

Three ounces of currants or raisins may be added.

Leave out the milk and add three ounces of butter, it will make a very nice cake.

NEW-YORK AMERICAN.

AUGUST 3, 5, 6, 7, 8, 9—1833.

LITERARY NOTICES.

THE NORTH AMERICAN REVIEW, No. LXXX.—*Boston:* CHARLES BOWEN.—The opening article of this number is a spirited and rapid, but charming notice of the life, writings and character of *Madame de Staël*, suggested by an essay of *Benj. Constant*. We wish we had room for the whole of it—but as that is impossible, we make an extract in which à propos of her great work on Germany, and to account for what is called her boldness in publishing a work shocking so many French prejudices, a parallel is instituted between the French and German character.

The German philosophers, beginning with Leibnitz had boldly opposed the doctrines of the materialist philosophy, but Voltaire had erected against Leibnitz his whole battery of wit in his Candide, where, like a mocking demon, or like Nero, exulting over the ruins of the Imperial City, he laughs at the misery of his own species.

Besides, the antipathy existing in France to every thing appertaining to Germany was so strong, that, until its literature and the character of the nation were better known, it was impossible to penetrate the triple wall of vanity, self-interest and national prejudice, with which France was surrounded.—Nor was there perhaps any period, when the national vanity was at greater height. Though the dearly bought fruits of the Revolution were gradually perishing, the glory attached to their victorious arms consoled the nation in general. If enslaved, they were led out to battle, and their chains were wreathed with laurel.

The opposition between the French and German character had remained as strongly pronounced, as in the first periods of their history. Tacitus describes the ancient Germans as worshipping the Supreme Being in the deep silence of the forests, and disdaining all human emblems of the Divinity,—while the Gauls are represented by Cæsar as a gay and superstitious people, governed by fanatical priests, and adoring God in temples, under the form of images.

'Upon the small surface of our little Europe,' says M. de Villers, 'Nature, in one of her caprices, has taken pleasure in bringing together by the boundaries of their territory two nations, which she has placed by their genius and character at the two extremes of the intellectual line, which it is given to man to traverse. These are the French and the Germans. Though some shades of resemblance are common to both in the present modification of the European character, they offer in their general ideas, and in the views which they take of life, such contradictions, and such total opposition, that it appears as if all means of understanding one another were impracticable, and all efforts to do so, superfluous.'

He goes on to explain the causes of this difference, by the ingenious but fanciful theory adopted by a modern school of philosophy, to account for the different organization of plants and animals, which it refers to the combined action of the centrifugal and centripetal forces. According to this theory, the plant is a portion of the centrifugal, planetary or terrestrial force, attracted externally, and retained there by centripetal, astral or solar forces. The animal, on the contrary, is a portion of solar force, surprized and enveloped by a terrestrial one,—a spark of Divinity immured in clay.

According to M. de Villers, the solar force has in the French nature been equally combined with or spread through the terrestrial element, whence arise the irritability and mobility of the whole mass, its exquisite powers of perception, and the vivacity of its communications with the external world;—while in the German nature, the celestial fire is condensed into one pure flame, burning in the intellectual sanctuary. Hence the German is less strongly attracted by objects affecting the senses, but is capable of an internal strength of meditation, that occasions his intellectual irritability to be greater, and gives him a totally different sphere of enjoyment.

Solitude does not suit a Frenchman, even in sorrow. His disposition is sociable, and he must have one to whom he may recount his griefs, and who may admire the philosophy with which he supports them. The woods and the rocks are not fitting echoes for a *bon-mot* or an epigram. He prefers a city life, with agreeable companions, to whom he may talk of the charms of solitary meditation.—Madame de Staël in her lively description of the *fête* of Interlaken, observes that she met various Parisian *élegans* in the streets of Unterseen, listening to the roaring of the waterfalls in the Swiss valleys, and endeavoring to secure a sufficient portion of *ennui* amongst the mountains, to enable them to return with a fresh zest to the gayeties of Paris.

The Germans live in a world of their own, which consoles them for the bleak world that environs them, as well as for the nullity of their political existence. One of their most distinguished writers remarks, that 'the English have the empire of the sea, the French of the earth, and the Germans of the air.'

In their ardent desire to see nature restored to her moral rights, the Germans were carried too far; and while the French materialized mind, they spiritualized matter. Thus, while one of these schools of philosophy renders us unworthy of heaven, the other unfits us for earth. But the German philosophy at least is the faithful ally of religion, while in the French they stand at the opposite sides of the barrier, like rival knights prepared for mortal encounter.

It required all the genius of Madame de Staël and all the celebrity attached to her name, to obtain even a patient hearing from the French public, when she undertook to unveil to them the riches of German literature, and the superiority of German philosophy. It required a grace and tact peculiar to herself, to make her way through a host of difficulties; and we cannot but admire the clearness with which she penetrates the German character, apparently impenetrable to a French understanding.

Art II is a long and useful paper on the instruction of the blind. *Art. III*, on phrenology, hardly does justice, as it seems to us, to what there is really sound and of a tendency to improve at any rate our usual systems of education, in Phrenology. It is written manifestly by a total unbeliever in this science. We had marked some time ago in *Kidd's* Bridgewater Treatise, on the adaptation of external nature to the physical wants of man, a chapter on this subject that struck us as giving just credit, to what Phrenology really has accomplished, and defining sagaciously the limits within which it may be looked upon as a wise and sure guide. We will find an opportunity to publish it; meanwhile we need hardly add, that Dr. Kidd's views differ materially from those of this number. *Art. IV* speaks with praise and discrimination of Cushing's Reminiscences in Spain. *Art. V*, on the Penitentiary system of the United States, affords an analysis of the report of Messrs. *Beaumont* and *de Tocqueville* on the prisons and prison discipline of the United States. This report, translated by *Dr. Lieber*, and accompanied with many explanatory notes from his hand, will, we understand, be shortly published by *Carey, Lea & Blanchard*, of Philadelphia, when we shall take occasion to speak at some length of it. *Art. VI* gives to the various publications of Mrs. Child, a native writer of approved talent, a deserved meed of applause. The following poem, now for the first time seen by us, from her pen, is admirable. The subject is the painting by Vanderlyn, of Marius seated amid the ruins of Carthage.

'Pillars are fallen at thy feet,
Fanes quiver in the air,
A prostrate city is thy seat,—
And thou alone art there.

No change comes o'er thy noble brow,
Though ruin is around thee;
Thine eye-beam burns as proudly now,
As when the laurel crowned thee.

It cannot bend thy lofty soul
Though friends and fame depart;
The car of Fate may o'er thee roll,
Nor crush thy Roman heart.

And Genius hath electric power,
Which earth can never tame;
Bright suns may scorch, and dark clouds lower,—
Its flush is still the same.

The dreams we loved in early life,
May melt like mist away;
High thoughts may seem, 'mid passion's strife,
Like Carthage in decay.

And proud hopes in the human heart
May be to ruin hurled,
Like mouldering monuments of art
Heaped on a sleeping world.

Yet there is something will not die,
Where life hath once been fair;
Some towering thoughts still rear on high,
Some Roman lingers there!'

Art. VII is devoted to a notice of *Vaughan's Memorials of the Stuarts*. This is the Puritan history of those scenes which led to the revolution of 1688; and with Hume as the Protestant, and Lingard as the Catholic historian of those same scenes and events this impartial inquirer may now have a fair chance of arriving at the truth. We should think that a republication of these volumes, which we know only from this review of them, would be found profitable in this country, where the principles for which the Puritans contended, and which their historian vindicates, have taken deep root. *Art. VIII*, on the UNION, is the sequel and conclusion of the able article on the same general subject in the January number, and will be found not less deserving of attention, nor written with less force of reasoning, or warmth of patriotic feeling. *Art. IX*, which is the concluding one, on the volume lately published by Mr. Sparks—the biographer of *Gouverneur Morris*, and the editor of the Washington papers—of the private, familiar letters of *Benjamin Franklin*, gives us the opportunity of saying here, what we ought to have said before, on receiving the volume itself, that in presenting it to the public, Mr. Sparks has acquired new claims to its gratitude, as having mainly contributed to dispel the lurking prejudice yet entertained by many against the character of old Franklin. We were ourselves, we confess, of the number of doubters about some parts of his character; but we acknowledge our error. We recommend the volume itself to our readers, meantime we will here give them a sportive letter of Franklin before the Revolution had made him an American. It was written to a young lady, at the house of whose mother in London he had been on a visit.

'PARIS, 14 SEPTEMBER, 1767.

'I am always pleased with a letter from you, and flatter myself you may be sometimes pleased in receiving one from me, though it should be of little importance, such as this, which is to consist of a few occasional remarks made here, and in my journey hither.

'Soon after I left you in that agreeable society at Bromley, I took the resolution of making a trip with Sir John Pringle into France. We went out on the 28th past. All the way to Dover we were furnished with post-chaises, hung so as to lean forward, the top coming down over one's eyes, like a hood, as if to prevent one's seeing the country; which being one of my great pleasures, I was engaged in perpetual disputes with the innkeepers, ostlers, and postillions, about getting the straps taken up a hole or two before, and let down as much behind, they insisting that the chaise leaning forward was an ease to the horses, and that the contrary would kill them. I suppose the chaise leaning forward looks to them like a willingness to go forward, and that its hanging back shows reluctance. They added other reasons, that were no reasons at all, and made me, upon a hundred occasions, almost wish that mankind had never been endowed with a reasoning faculty, since they know so little how to make use of it, and so often mislead themselves by it, and that they had been furnished with a good sensible instinct instead of it.

'At Dover, the next morning, we embarked for Calais with a number of passengers, who had never before been at sea. They would previously make a hearty breakfast, because, if the wind should fail, we might not get over till supper time. Doubtless they thought, that when they had paid for their breakfast they had a right to it, and that when they

had swallowed it they were sure of it. But they had scarce been out half an hour, before the sea laid claim to it, and they were obliged to deliver it up. So it seems there are uncertainties, even beyond those between the cup and the lip. If ever you go to sea, take my advice and live sparingly a day or two before hand. The sickness, if any, will be lighter and sooner over. We got to Calais that evening.

'Various impositions we suffered from boatmen, porters and the like, on both sides the water. I know not which are most rapacious, the English or French but the latter have, with their knavery, most politeness.

'The roads we found equally good with those in England, in some places paved with smooth stones, like our new streets, for many miles together, and rows of trees on each side, and yet there are no turnpikes. But then the poor peasants complained to us grievously, that they were obliged to work upon the roads full two months in the year, without being paid for their labor. Whether this is the truth, or whether, like Englishmen, they grumble, cause or no cause, I have not yet been able fully to inform myself.

'The women we saw at Calais, on the road, at Boulogne, and in the inns and villages, were generally of dark complexions; but arriving at Abbeville we found a sudden change, a multitude of both women and men in that place appearing remarkably fair. Whether this is owing to a small colony of spinners, wool-combers and weavers brought hither from Holland with the woollen manufactory about sixty years ago, or their being less exposed to the sun, than in other places, their business keeping them much within doors, I know not. Perhaps, as in some other cases, different causes may club in producing the effect, but the effect itself is certain. Never was it in a place of greater industry, wheels and looms going in every house.

'As soon as we left Abbeville, the swarthiness returned. I speak generally; for here are some fair women at Paris, who, I think, are not whitened by art. As to rouge, they don't pretend to imitate nature in laying it on. There is no gradual diminution of the color, from the full bloom in the middle of the cheek to the faint tint near the sides, nor does it show itself differently in different faces. I have not had the honor of being at any lady's toilette to see how it is laid on, but I fancy I can tell you how it is or may be done. Cut a hole of three inches diameter in a piece of paper; place it on the side of your face in such a manner, as that the top of the hole may be just under the eye; then, with a brush dipped in the color, paint the face and paper together: so when the paper is taken off, there will remain a round patch of red exactly the form of the hole. This is the mode, from the actresses on the stage upwards, through all ranks of ladies, to the princesses of the blood; but it stops there, the Queen not using it, having in the serenity, complacence, and benignity, that shine so eminently in, or rather through her countenance, sufficient beauty, though now an old woman, to do extremely well without it.

'You see I speak of the Queen as if I had seen her; and so I have, for you must know I have been at court. We went to Versailles last Sunday, and had the honor of being presented to the King; he spoke to both of us very graciously and very cheerfully, is a handsome man, has a very lively look, and appears younger than he is. In the evening we were at the *Grand Concert*, where the family sup in public. The table was half a hollow square, the service gold. When either made a sign for drink, the word was given by one of the waiters, *à boire pour le Roi*, or, *à boire pour la Reine*. Then two persons came from within, the one with wine and the other with water in *carafes;* each drank a little glass of what he brought, and then put both the *carafes* with a glass on a salver, and then presented it. Their distance from each other was such as that other chairs might have been placed between any two of them. An officer of the court brought us up through the crowd of spectators, and placed Sir John so as to stand between the Queen and Madam Victoire.—The King talked a good deal to Sir John, asking many questions about our royal family; and did me too the honor of taking some notice of me; that is saying enough; for I would not have you think me so much pleased with this king and queen, as to have a whit less regard than I used to have for ours. No Frenchman shall go beyond me in thinking my own king and queen the very best in the world, and the most amiable.

'The civilities we every where receive give us the strongest impressions of French politeness. It seems to be a point settled here universally, that strangers are to be treated with respect; and one has just the same deference shown one here by being a stranger, as in England by being a lady. The custom-house officers at Port St. Denis, as we entered Paris, were about to seize two dozen of excellent Bordeaux wine given us at Boulogne, and which we brought with us; but as soon as they found we were strangers, it was immediately remitted on that account. At the Church of Notre Dame, where we went to see a magnificent illumination, with figures, &c. for the deceased Dauphiness, we found an immense crowd, who were kept out by guards; but the officer being told, that we were strangers from England, he immediately admitted us, accompanied and showed us every thing. Why don't we practise this urbanity to Frenchmen? Why should they be allowed to outdo us in any thing?

'Travelling is one way of lengthening life, at least in appearance. It is but a fortnight since we left London, but the variety of scenes we have gone through makes it seem equal to six months living in one place. Perhaps I have suffered a greater change, too, in my own person, than I could have done in six years at home. I had not been here six days, before my tailor and perruquier had transformed me into a Frenchman. Only think what a figure I make in a little bag-wig, and with naked ears! They told me I was become twenty years younger, and looked very gallant.'

THE EFFICACY OF A MOTHER'S PRAYERS ILLUSTRATED IN THE CONVERSION OF ST. AUGUSTIN, BISHOP OF HIPPO. New York: SWORDS, STANFORD & Co.—This narrative, for such it is, in simple and unadorned language, of the life of St. Augustine, was prepared by the Rev. Mr. Seabury, one of the Instructers in the Flushing Institute, for the benefit of the scholars; and is so well done as to have been rightly judged worthy of more extensive dissemination. It is accordingly printed as a tract; and we commend it to notice, as a renewed evidence of the value of that most blessed and probably most permanent of all mere human influences—a mother's early love and care.

TALES AND NOVELS, BY MARIA EDGEWORTH. Vol. VI.—*Harpers'* Uniform Edition. *Belinda* occupies this volume of this very pretty and well printed edition which is, as our readers may remember, to be completed in nine volumes.

THE PREMIUM.—*Carey, Lea, & Blanchard*, Philadelphia.—This is a pretty little volume, designed, as its name implies, as a reward to diligent students, and compiled with a view to render it, in a higher degree than the annuals generally or other similar books of which the chief value consists in the luxury of typography and embellishment—instructive as well as attractive. The selections here are well made—taken from approved European and American writers, both in verse and prose, and may be read and re-read without loss of interest.

STANLEY BUXTON; *by the author of* '*Laurie Todd*, &c. Philadelphia, E. L. CAREY & A. HART.

GODOLPHIN, J. & J. Harper, New York.

DELORAINE; BY THE AUTHOR OF 'CALEB WILLIAMS.'

THE LIBRARY OF ROMANCE: Philadelphia, Carey, Lea & Blanchard: Vols. IV, V, and VI, comprising

THE STOLEN CHILD; by John Galt, Esq.

THE BONDMAN; a Tale of the Times of Wat Tyler;

THE SLAVE-KING; from the Bug Jargal of Victor Hugo.

Here is a list of novels and romances, which we can do no more than enumerate; for, sooth to say, we have not found leisure to look at any one of them except 'Godolphin,' and only at that long enough to marvel, how any one conversant with the manner of Bulwer, could have ascribed that work to him!

NEW-ENGLAND MAGAZINE, for August.

KNICKERBOCKER, for do.

AMERICAN MONTHLY MAGAZINE, for do.

Of these, we have only read the last, and with increasing approbation of each successive number; and cannot doubt that this periodical, if sustained, as heretofore, will take rank among the very foremost of its class. In referring to it, we are sorry to be obliged to call attention to an advertisement of its proprietors, alleging a sort of piracy against the *Knickerbocker*, which, unless completely explained away, must and should redound greatly to the discredit of that work. We have only a line in conclusion to say, as we do with great pleasure, that the "letters, &c. of Horace Walpole," of which we gave an account yesterday, are to be republished in the course of next week, by Mr. Dearborn, of this city.

FOREIGN INTELLIGENCE.

EAST INDIA COMPANY.—We published last week the five propositions introduced in the House of Commons on the — June by Mr. Grant, as the basis of the contemplated arrangements respecting the East India Company. To compensate the Company for the surrender of their rights and privileges, according to those resolutions, it is proposed—

"6. That their present dividends, to the amount of £630,000, which the Proprietors are in the annual receipt of, should be secured to them by an annuity, to be charged on the territorial revenues of India, and on the territorial revenues of India *only*.

"7. That at the end of the twenty years of government to be administered by the East India Company, the Proprietors shall have the right, if *then* deprived of the government of India, to demand the payment of their capital; but

"8. If at the end of that period of twenty years they should not demand the payment of their capital, then that the payment of the said annuity of £630,000 should be continued for forty years.

"9. At the end of forty years, it is to be at the option of Parliament, on giving three years' notice, to redeem the said annuity at the rate of £100 for every £3 5*s.* of annuity.

"10. That there shall be a guarantee fund of two millions; the said fund to be allowed to accumulate, until with interest it shall increase to the sum of twelve millions; the object of the said fund being to secure the regular payment of the annuity; and ultimately to be applied to the paying off the capital stock of the Company."

It is proposed--

"That in future, this country shall proceed on the American plan of apportioning the duty according to the quality of the tea; so that taxation on that article may not fall disproportionately on the consumers of inferior sorts of tea. To that end Mr. Grant recommends that the teas should be distinguished in four or five distinct classes, and rated accordingly.

"With respect to the tea now held in bond by the E. India Company, and which is calculated at about two years' consumption, the Company is to be allowed a reasonable tome to dispose of it, before the private trader is allowed to come into competition with them.

"Mr. Grant expressed his opinion that there should be no restrictions in respect to the size of vessels trading to China."

With respect to the silk establishments kept up by the Company in India, it is proposed, in order to secure the certain supply of silk to this country, that the Company should be allowed to go on with them, until capitalists be found to take the trade out of their hands.

In a future stage of the Bill, Mr. Grant announced that he should have to propose some alterations in the Ecclesiastical Establishments of India.

The following are the resolutions proposed by Mr. Grant, as they appeared in the "Votes and Proceedings" of the House of Commons:

"1. That it is expedient that all his Majesty's subjects should be at liberty to repair to the ports of the Empire, subject to such regulations as Parliament shall enact for the protection of the commercial and political interests of this country.

"2. That it is expedient that, in case the East India Company shall transfer to the Crown, on behalf of the Indian Territory, all assets and claims of every description belonging to the said Company, the Crown, on behalf of the Indian Territory, shall take on itself all the obligations of the said Company of whatever description, and that the said Company shall receive from the revenues of the said Territority such a sum, to be paid in such a manner, and under such regulations, as Parliament shall enact.

"3. That it is expedient that the Government of the British possessions in India be entrusted to the said Company, under such conditions and regulations as Parliament shall enact, for the purpose of extending the commerce of this country, and of securing the good government, and promoting the moral and religious improvement of the people of India."

Death of a Miser.—Died, at Anstruther, on the 29th of May, Alexander Sim, who had for upwards of thirty years carried on the business of a saddler, in a mean shop, and lived in one room. When not in his shop, he was quite a recluse, and his meagre appearance and threadbare garment evinced no little mortification of the flesh; he was constantly complaining of poverty and badness of the times. Nothing being known of his relations, after his funeral his shop and room were searched by the Town Clerk, and in a chest, the key of which was hid in an old shoe, receipts were found for 2000*l.* deposited in different banks, and 174*l.* in bank notes were in his pockets. No will was found, but a letter from a sister-in-law, in one of his pockets, begged the loan of a few pounds. An old woman, his occasional housekeeper, says she was present when he received the letter, and he threw it from him in great wrath, declaring she should not have a farthing, as if he complied with such, he would soon be a ruined man.—It is supposed the children of the applicant are his heirs.—[Dumfries Courier.]

[*From the Courier and Enquirer.*]

Jamaica.—By the ship *John W. Cater* we have received files of the *Jamaica Despatch* to the 13th ultimo. They present public feeling in the same aspect on the subject of the measures now in progress in England to emancipate the slaves, that we have for some time past had occasion to notice. An attempt has been made to show, that the Toleration Act, by which in the mother country, other sects than those of the Angilcan church have been permitted the free exercise of their religion, did not extend to Jamaica. The Grand Court were divided on the question, and finally settled that this law was in force n the island, but that Sectarian preachers must comply with its provisions, which require that they should apply to the magistrates in the parish where they purpose to exercise their calling for a license to preach.

[*From the Journal of Commerce.*]

Late from Buenos Ayres.—By the brig Amanda, Capt. Yorke, we have received Buenos Ayres papers to June 22d inclusive.

The Eleventh Legislature of the Province convened at Buenos Ayres, 31st May, on which day, Governor Balcarce delivered a Message containing among other paragraphs the following:

"The Minister sent by the Government of Washington, whose expected arrival was announced to you in the preceding year, and whom it was resolved to await in order to come to an explanation relative to the destruction by main force of the colony in the Island de la Soledad, (one of the Falklands) by the Captain of the United States corvette *Lexington*, did in effect arrive, and was received in the character of Chargé d'Affaires: you are, Messrs. Representatives, already acquainted with the state of this negotiation. The Government, in order to follow it up, has appointed a Minister, and has notified this appointment to that of Washington; and he will shortly be despatched with the competent instructions to obtain satisfaction and reparation for so great an injury.

"The re-settlement of the Falkland Islands was immediately resolved on, in the mode that the other attentions of the province allowed; but soon an event occurred as unexpected as disagreeable. The Government has informed you that the Captain of His Britannic Majesty's sloop of war *Clio*, sustained by a superior force, took possession of the Islands in the name of his Sovereign. Then it likewise stated to you what would be its conduct. It has therefore directed its Minister in London, that, energetically remonstrating against the violation of the most sacred principles of the law of nations, he demand the restitution, and seek such satisfaction as becomes the justice and honor of both Governments, by those means which probity, good faith, and sound reason dictate."

At an election of Representatives on *Sunday*, the 16th, to supply six vacancies in that body, serious disturbances took place, and the Government issued an order suspending the canvass. One parish, notwithstanding, continued the polls open until the usual hour of closing.

There is nothing important from the expedition against the Indians.

Capt. Stetson, of the brig Cherokee, arrived this day from Pernambuco, states that he was informed by Mr. Crabtree, a merchant at Pernambuco, that he had received a letter from the English merchants, at a small place about 60 miles from Pernambuco, stating that the Brizilians had risen on the British merchants, and massacred about 50 persons. It was said the difficulty arose from a difference in the currency of money. A United States schooner was at Pernambuco when Captain S. heard the news, which got under way immediately, to protect the merchants and property at that place.

SUMMARY.

The United States Ship of the line Delaware, Henry E. Ballard Esq. Commander, arrived and anchored in the offing on Friday. She is now at anchor in the North river.

The National Gazette has been misled in supposing Mr. Livingston will not embark in the Delaware. He made a preparatory visit in the ship yesterday, with a part of his family, on which occasion a salute was fired: and will sail probably early next week.

Our Harbor.—From the Gazette we learn that the Delaware, drawing 25 feet and 8 inches of water, (and no ship of war requires more depth,) came over the bar on Saturday, when the tide was only at one third of its elevation, and when there was a heavy swell of the sea. The log was constantly thrown, and the shoalest part of the bar, at this state of the tide, was 29 feet of water, leaving more than four feet from the bottom. Had the tide been full, she would have had nearly 9 feet of water between the keel and the top of the bar.

Fort Monroe and the Rip-Raps.—We find the following account of these fortresses in the Globe of Tuesday:—

The channel which leads in from the Capes of Virginia to Hampton Roads, is, at Old Point Comfort, reduced to a very narrow line. The shoal water, which, under the action of the sea, and re-acted upon by the bar, is kept in an unremitting ripple, has given the name of Rip Raps to this place. When the bar is passed, Hampton Roads, which extend to Norfolk, about 16 miles distant, into which James River, Elizabeth River and Nansemond Mouth empty, afford the the finest anchorage in the world, and in them all its navies might ride with perfect safety. With a view of making this a secure retreat for ships of war and for our commerce, in any future contest with a naval power, Fort Monroe was built on the point, on the right side of the channel at the entrance of the Roads—and the castle of the Rip Raps is directly opposite the point, at the distance of about 1900 yards. The two forts will completly command the channel, and it will be impossible for a single ship of war to pass without the permission of the power holding the fortresses. They are so constructed, as to present immense batteries of cannon upon an approaching ship, from the moment she comes in reach, from the Capes, and throughout all the bendings of the channel it must still be under the power of the cannon; for the forts present a new aspect at every turn, and in all probability the interdicted ship would be a wreck, or a conflagration, from the hot shot thrown into her, before she completed half the circuit of the channel.

There is much salutary experience, bought however dearly, in the lessons of the late war. These waters were then the resort of the British fleets, and while all American vessels were either driven from their own harbors, or captured, the enemy made himself at home here—sent detachments to Baltimore and Washington—ravaged the shores of the Chesapeake—burnt our Capital and Navy Yards, and laid the whole country under contribution. The erection of the two Forts at this central point of our seaboard, gives a refuge to our naval force, if driven in by superior numbers, and will, in effect, not only occlude Hampton Roads to the enemy and shut him out from James River and Norfolk, our naval depot, but must deter him ever venturing up the Chesapeake Bay. If such an attempt were made, the first calm would put the most powerful fleet of an enemy completely at the mercy of a few steam-frigates or steam-batteries, which, by means of their self-moving power, would be enabled to take such position as suited them, and to set fire to the ships of the enemy with hot shot, or cut them off in detail. The shelter of these forts, too, would enable a few ships, lying in security under their guns, to sally out and take advantage of any storm which might separate a blockading force, exposed to the accidents of an open sea.

These circumstances give great importance to the works which are to form the gates at Hampton Roads—and, as a consequence, in a great degree to the whole Chesapeake Bay. Fort Monroe is already finished, and is at this moment in admirable condition, if its armament were completed. * * * *

The Rip Raps, where the President has fixed his quarters, for the benefit of the sea air and bathing, will, I trust, before long, become a noble structure. When finished, it will be a monument worthy of the people who have lavished their means in its erection, and of the genius of the Engineers by whom it was planned. The area of the structure, as originally staked off includes five acres; a great part of which was 22 feet below the surface of the sea, and that nearest the surface 18 feet. To get a foundation above water for the Fort or Castle, an Island has been raised, by throwing rocks into the water, until, by gradual accumulation, it has emerged above the tides. The rock of which this Island is formed, has been brought from great distances, and at a vast expense.

After a foundation was obtained for the Castle above high water, the building of the castle was begun, and carried up so as to form the first embrasures. It was found that the settling of the artificial mound of stone cracked the walls. The building was, therefore, discontinued; but immense masses of granite have since been brought and lodged upon the lines of the work, that the weight of the material, designed for its final completion, might be employed in consolidating its foundations. For some years this marine pyramid sunk between six and eight inches; during the last year, although pressed with the weight of all the material gathered for the superstructure, it settled about three inches. It is the President's opinion that the erection of the Castle may now proceed with safety, and it is probable that he will direct its immediate completion.

The present aspect of the place is rough and savage, and when the surge rushes in among the hollow piles of granite, and the wind whistles among the naked spars, which are planted round the walls for the support of the scaffolding, the music of the surrounding elements of sea and air, is quite in keeping with the dreary, desolate spot, which, at a distance, looks like a Gibraltar, beaten down by cannonade, and fallen prostrate in the sea.

Nothing could add more to the grandeur of what has been justly called the *American Mediterranean*, than the elevation of the Castle at the Rip Raps—the rising of this giant of the flood, from the waves, as contemplated by Commodore Warrington, Commodore Elliott, General Armistead, General Bernard, General Swift and Major McRee, the Commissioners and Engineers, in whose design the work originated. The ancients tell us that Venus rose from the sea, but it would seem a much fitter element, to give birth to the god of War; and never was there a nobler scene, or nobler temple, than that appropriated for his cradle, by the American people, at the Rip Raps. He will appear here, not like the goddess of Love, borne in a shell upon a summer's sea, but upon a tower of strength amidst the noise of restless surges,—a fit emblem of the American people, whose martial strength belongs alike to the land and to the ocean.

It is a circumstance worth notice, that the material for the structure of the Castle of the Rip Raps is drawn from most of the commercial States of the Union. In walking over the piles with the Superintendent, a day or two since, he pointed out to me the drab grey granite of Maine—the whitish blue and the black speckled granite of Connecticut—the red freestone of the same State—the sky blue granite from near West Point, New York—the iron stone, for break waters, from the same State—the pied granite of the Susquehanna—the deep blue of the Little Falls of Potomac—and the ash colored of the James river.

In this edifice, then, which is to form a strong hold in a central position, to defend our great naval depot and to protect our naval power over the ocean, and especially to afford a place of refuge to the commerce of the nation, each commercial State may point to a portion of the blended strength which it has contributed to the common structure. The castle, at the Rip Raps, should then be called, as well from its use, as from its origin, *the Castle of the* Federal Union—and when attacked by foreign or domestic assailants, it should run up with the ensign of "the Federal Union," the watch word "*it must be preserved.*"

Minister from Portugal.—The outside of letters can be seen, although the inside is sacred. We are much gratified at finding that an amiable, able, and patriotic man has been appreciated by his government. The Chevalier *I. C. De Figaniere*, who filled the office of Consul for Portugal in this city for many years has been appointed by Don Pedro as Regent, and in behalf of his daughter, *Chargé d'Affaires* near our Government. This gentleman has continued to

reside amongst us up to the present time; and has gained the esteem of all. He has been rightly rewarded for his fidelity and zeal.

Perhaps the appointment above noticed, of which we apprehend there is no doubt, may afford to our Government a fair pretext for putting itself again in harmony with the liberal party of Europe, by recognizing Donna Maria. The step by which Don Miguel was so early, and, as it always seemed to us, so unnecessarily, recognized by this Government, would be thus countervailed.

The Secretary of the Navy and the Navy Commissioners arrived at the American Hotel on Tuesday from Philadelphia. After inspecting the Brooklyn Navy Yard, they will proceed to Boston and Portsmouth. We trust this opportunity will be embraced by these functionaries to satisfy themselves of the superior advantages of all sorts which this harbor possesses for a Naval Station of the first class, and that these advantages will be improved accordingly.

Lieutenant Collings Long, commanding the U. S. Schoonnr Dolphin, states in a letter to the Secretary of the Navy, dated April, 1833, Valparaiso Bay, that for the nine months previous only nine persons on board had drawn the liquor part of their rations.

Great Fire at Oswego—A slip from the Assistant Post Master at Oswego, dated August 2, 8 o'clock, A. M. and published in the Albany Argus, says, "The Post Office at Oswego, together with one whole block of stores, was burnt last night. The fire took in a blacksmith's shop.—[Journal of Com.]

Quebec, July 29.—*Hail-Storm.*—The warm atmosphere of last week was displaced by one of the sudden rushes of colder air from the northward, frequent in the climate of Lower Canada. About five o'clock on Saturday afternoon, some very dark clouds gathered in the North West of the horizon.—The wind agitated these clouds with extraordinary violence, and torrents of rain fell soon after, driven by a wind having nearly the velocity of a West India hurricane. Trees, fences and several out-houses and barns were prostrated, particularly on the Carouge, Lorette and St. Foy Roads, at the distance of two or three miles from town. A couple of barns on this side Scott's bridge have been leveiled with the ground. The greatest damage was however done in the town of Quebec by the hailstones, which have broken on a low estimate from 8 to 12000 panes of glass in the different houses having a northerly exposure and situate in the Upper Town, and St. John and St. Lewis Suburbs. The extent of the hailstone shower does not appear to have been more than a couple of miles; the rain which fell at five or six miles distant from Quebec along the banks of the St. Lawrence, was but inconsiderable. The hailstones were on an average of the size of a hazel nut, and many were an inch in length. It is very many years since so much damage was done here from a similar cause.

The wind and rain does not appear to have materially damaged the standing crops.

Mr. Editor—In answer to "A Subscriber," requesting information, in your paper of yesterday's date, "as to the best mode of constructing an ice-house that will keep ice through the season," the following is submitted as the method most in use in the neighborhood of Boston, where it has been made the subject of scientific inquiry.

It must be a tight frame building, and *above* ground, the four sides of which should have an inside lining, fifteen inches apart, the intermediate space filled with tan; the floor, which should be dry ground, covered with the same material to the depth of about fifteen inches: the attic should have a board flooring, with a scuttle door for entrance, also covered with tan, say about five to six inches; over the whole, a good *tight* roof, with an entrance to the attic through the gable end. Another Subscriber.

Health of Cincinnati.—The whole number of deaths, says the Gazette of Aug. 1st. for the week ending 30th July, was 112. Cases of Cholera 51.—We have 13 more interments than the week preceding; the proportion of cholera a little diminished. It will be seen from the Mayor's report, that on Tuesday and Wednesday, the Cholera interments advanced a little upon those of Monday.

Extensive Fire in St. John's N. F.—The Miramichi Gleaner of Tuesday, July 23d, furnishes the following information, received there by a vessel from St. John's:—

"We were kindly handed yesterday evening by a mercantile house in Newcastle, the following note:

"We have just received a letter from our friends at St. John's, Newfoundland, who state that they have had a most destructive Fire. It commenced on Sunday morning, about 3 o'clock, and in a very short time, a considerable portion of the centre of the town was destroyed. Between forty and fifty buildings were consumed.—The Isabella brought no papers."—[Standard.]

Twenty-four horses have died within three weeks in this city by disease or poison. They belonged to two different proprietors. One of them is sanguine in the belief that they are poisoned, and states that the contents of the stomach of one of his horses was examined, and arsenic was found in considerable quantities. The public is deeply interested in ascertaining the fact whether any disease is prevailing, or whether any one has been malicious and wicked enough to infuse poison into the food of horses.—[Uitca Sentinel of 30th July.]

Caution.—A fishing boat, coming into the dock, at the foot of Market street, was followed nearly up to the landing by a large Shark. As a number of boys are in the habit of bathing at that place, we notice the circumstance as a caution to them to abandon the practice.—[Charleston Courier.]

Pedestrianism.—Mr. Haskett, the pedestrian, who has undertaken to walk 2000 miles in 70 days, living on bread and water only, arrived in this town yesterday at one o'clock, from Fall River, and returned the same afternoon. He will deliver a lecture in this place this evening, at 8 o'clock, in the Lyceum Hall. We learn from the Courier that he has already accomplished the half of his tour, and is now in advance 93 miles. The first quarter he was in the rear, but in the second quarter he has made some rapid marches. Mr. H. is in good health and fine spirits, and walks with remarkable ease, carrying a large valise at his shoulders.

The subject of the Lecture will be the influence of Luxury on the character, health and happiness of man. Tickets for the Lecture may be procured at Wm. C. Taber's bookstore, and at the Merchants' Bank.—[New Bedford Mercury.]

The ship St. Louis, Capt. Story for Natchez, the first ship that ever sailed for that port, went to sea yesterday, with a cargo valued at nearly *four hundred thousand dollars.*—[Gazette.]

The Colonization Society, through its Agent, Mr. Gurley, and with the aid of many zealous citizens, is about making the attempt to raise, within this State, the sum of *Twenty Thousand Dollars*, in order to the more efficient carrying out of their plan, for the transportation of free colored people to Africa. The proceedings of a preparatory meeting in this city will be found below; the Executive Committee appointed will doubtless at once go to work.

This Society, always important and respectable, both by its objects and the character of its members, has latterly assumed a higher degree of importance by reason of the attacks made upon it by some misguided and fanatical persons, who formerly united in its purposes, but who, having recently discovered, as they allege, that the Colonization Society is a mere cunning device of the slaveholder, to rivet more firmly the bonds of the slave—now turn all their bitterness upon it, and insist upon nothing short of immediate emancipation. Persuaded as we are that a due regard to the repose of the South, and to the ultimate advantage of the slave population itself, imperiously requires that all hasty and over-zealous attempts of this sort, should be discountenanced and disavowed, at the North, we are the more urgent, that the effort now making by the Colonization Society should be favorably looked on here; because we think its encouragement and success the most obvious and effectual answer to all, who, from whatever motive, seek to represent the opinions and aims of the few who profess immediate emancipation as their object, as the settled opinions and aims af the North.

The Colonization Society possesses the confidence of the South. Many of its leading and influential members are residems of States where slavery exists. When therefore the philanthropic efforts of the North to better the condition of the free colored population, and to afford a safe asylum to emancipated slaves, take the same direction and operate through the same channel, all jealousy in regard to these efforts will be allayed; and by mutual co-operation of all parts of the country, vastly greater results may be accomplished. Hence we repeat the expression of our hope that the sum of twenty thousand dollars, now sought to be raised by voluntary contribution in this State, will be readily obtained.

The Colonization Cause.—A meeting of a number of friends of the noble cause of the American Colonization Society, convened by special invitation, was held last evening, at the Consistory Room of the Dutch Reformed Church, corner of Ann and Nassau-streets. The Rev. Dr. De Witt having been called to the chair, and offered an appropriate address to the Throne of Grace, the business of the meeting was opened by the Rev. R. R. Gurley, Corresponding Secretary of the Parent Society. He stated the objects of his present mission to the north and east—it being to make a special appeal to the public, to augment the funds of the Society. The extraordinary expenditures of last year, occasioned by the transportation and settlement in Liberia of eleven hundred emigrants in about a year, had not only exhausted the treasury of the Society, but involved it in responsibilities beyond its present means. The society is also destitute of means to transport the multitudes of emigrants who are daily enrolling their names for the colony. Mr. G. assured the meeting that a crisis had arrived in the affairs of the Society, and it was soon to be determined whether it would be enabled to proceed upon a scale commensurate with the high expectations of the country, or to languish, and thus disappoint the fond hopes of the christians and philanthropists of our country, as to its ultimate success.

In being mentioned that Captain Page, of the U. States Navy, who had last year visited the colony by orders of the government, was present in the meeting, he was requested to state such facts as to the civil and moral condition and prospects of the colony, as had particularly attracted his attention during his visit. The request was cheerfully complied with by Captain P., and his statements were such as to afford very high gratification to the friends of the cause. The colony was in flourishing condition, and the community exemplary for its morals. The climate is healthy for the man of color, the soil rich and productive; and the people contented and happy. He was in the habit of visiting the people daily, and dining with them at their houses. He saw but one discontented person there, and he was so only because he thought he ought to have been appointed to an office. Captain P. saw not a drunken person there, and in answer to questions put to him, gave very satisfactory contradictions to the statements recently put forth by the enemies of the cause, in the incendiary papers published in Boston and this city.

Captain P. having concluded, and some further remarks been made by other gentlemen, the following resolutions were moved and unanimously adopted:

Whereas, in the judgment of this meeting, the American Colonization Society is a truly philanthropic and Christian Institution, benevolent in its aspect towards the whole African race; and whereas this Society, is, at this time, in special need of funds to prosecute with due vigor its great enterprize; and whereas, no very general and earnest effort has, at any time, been made in this city and state to increase its resources;

Resolved, That it is expedient to adopt immediate and vigorous efforts to raise in this city and state the sum of Twenty Thousand Dollars for the American Colonization Society.

Resolved, That a committee be appointed with full powers, to fill up any vacancies that may occur in their number, or to increase it as they may think proper, and whose duty it shall be to prepare and publish a brief address to their fellow citizens and, to adopt all such measures as they shall judge expedient to carry the object proposed in the preceding resolution into speedy and complete effect.

Thomas De Witt, Chairman.

William L. Stone, Secretary.

We take from the American Monthly Magazine for this month some pretty lines from the Italian—

If every man's internal grief
Were written on his brow,—
How many would our pity move,
Who wake our envy now!
Stern hate would give his enemy
A word of softer tone,—
Seeing how small the joy, that once
Embittered all his own.

[*From the New-York Gazette.*]

SAILOR'S SNUG HARBOR.—This interesting Institution was opened for the reception of "old and worn out infirm seamen," on Thursday, the first instant, with appropriate religious services, in the presence of the Trustees, the Rev. Clergy of Staten Island, and a number of persons residing in the neighborhood. The centre building of the contemplated edifice is completed, and will accommodate about two hundred beneficiaries with comfort and convenience: but at present the number is limited to fifty, for whom the actual income will amply provide, though it is confidently expected that it will increase commensurate with the suitable subjects to be supported. The exercises in the large hall commenced at noon, with prayer by the Rev. Mr. Van Pelt of Staten Island, an address to the Sailors by Dr. Phillips of this city, ex-officio one of the Trustees of the Institution, and were concluded by prayer from the Rev. Mr. Miller, Pastor of the Church at the quarantine ground. The inmates of the establishment afterwards sat down to their first dinner in the great dining hall; and as long as they conform to the wholesome rules adopted by the Trustees, they will be here provided with every thing necessary for their comfort and happiness.

It will probably be recollected, that the late Robert Richard Randall, the Founder of the Institution, directed the asylum to be erected on the ground commonly known as the Sailors' Snug Harbor, at the upper end of Broadway; but the Trustees, after freeing the property from the vexatious and expensive lawsuit in which it was involved, taking into serious consideration that a building so situated, would not only injure the value of the land connected with it, but that its inmates would be exposed to many temptations, resolved to apply to the Legislature for permission to change the location: which being readily granted, they have, at very little comparative expense, purchased a farm on Staten Island, containing nearly 150 acres of fine land, an inexhaustible supply of excellent spring water, brought from the rear of the farm to the kitchen of the building by means of iron pipes, and commanding an extensive view of the city and bay. A steamboat stops at the wharf three times a day, and affords every facility for communication with New York.

The Trustees appointed by the will are, *ex-officio*:

The Chancellor of the State.

The Mayor and Recorder of the City.

The Rector of Trinity Church.

The Pastor of the first Presbyterian Church in Wall-street.

The President of the Chamber of Commerce.

The President and Vice President of the Marine Society.

The Trustees have appointed Capt. John Whetten, the President of the Marine Society, Governor of the Asylum.

It is creditable to Mr. Samuel Thomson, the carpenter, and Mr. Peter Storms, the mason, that they have given complete satisfaction to the Trustees, for their taste and talent in the erection of this Snug Harbor, for worn-out sailors.

PUBLIC HYDRANTS.—Yesterday afternoon another experiment was made with the Hydrants at the corner of Exchange and William Street, and also, at the corner of Beaver and William Street. The water was thrown over the five story store of Abraham Van Nest, 13, William Street, through forty feet of hose. The head of the water was sufficient to throw a powerful stream sixty feet high, by actual measurement. This hydrant is situated at least three miles from the reservoir. The experiment was witnessed by a committee of the Corporation, and a great number of citizens, and proved most satisfactory. It is now only about three or four years since the project was formed in the Board; since which, a well of more than one hundred feet has been sunk through a solid rock, and three horizontal shafts blasted, of about seventy-five feet in length. An abundance of water is raised into the reservoir, and thus far has never been exhausted in the extinguishment of any fire that has ever occurred. Upwards of seven miles of pipes are now laid, viz:—From Thirteenth St. down Broadway to Exchange Street; down the Bowery, Chatham Street, through William to Beaver Street; from the Bowery through Delancy Street to the river; from Chatham Street through East Broadway to Sheriff Street; from Broadway through Houston Street to Carmine St.; through Canal Street down Hudson to Chambers Street. Contracts are now made, and pipes will shortly be laid, for three miles more, viz:—Through Pearl St. from Chatham Street to Hanover Square, from East Broadway through Essex to Stanton St.; from Canal Street up Hudson to Carmine St.; from Broadway through Fourth Street to Greenwich village. When this work is completed no fire can take place in the city that cannot be reached by hose from the different hydrants. The expense already incurred, is about one hundred and fifty thousand dollars, and it is believed that more than half a million of dollars worth of property has been saved from the flames. The water is found to be of the best quality, and quite as soft as rain water. It is not expected that it will ever be used for culinary purposes; but it is gratifying to know that the great work of supplying the city is in fact, in active progress.—The pipes are sufficiently large, and are so intended to be used, when the water of the Bronx, Croton or Rye Pond shall be brought to the city; so that whenever measures shall be adopted of introducing good water, the pipes will be already laid to receive it.—[Daily Advertiser.]

[*From the Charleston Patriot, of July* 27.]

Col. William Drayton, a Representative in Congress for some years from this District, a native son of Carolina, and a resident of our city for nearly the whole period of his honored life, left our shores this afternoon in the ship Sutton, for the purpose of taking up his residence permanently at the North. It is impossible to part with a man of Col. Drayton's public purity, private probity, distinguished ability, and extensive usefulness, without the expression of a heartfelt regret at the separation. He goes, bearing with him the full measure of that reverence and respect, that popular approbation, unsolicited and unbought by popular arts, loves to bestow on the faithful public servant, and without an enemy, except such as the late unnatural estrangements in politics may have produced. We are sure that not one particle of political or other malice mingles with and taints the generosity of his nature—the native benevolence of his disposition. May the evening of his useful life be as serene and cloudless as its morning was brilliant, and its meridian effused a steady lustre.

Gimblets.—The Yankees are in a fair way to destroy John Bull's gimblet trade with this country.—The new twist gimblet is almost as much superior to the old English gimblet, as the screw auger is to the old pod auger. There is a gimblet factory at West Whately which employs 15 hands, about half of them females, and manufactures 25 gross per week. The steel is imported from England in round rods; the handles are turned out in the vicinity. There is a gimblet factory in Buckland, one in the northern part of Franklin county, one in Keene, New Hampshire, and one or more in Connecticut.

Six thousand dollars salvage has been awarded, in the case of the brig *America*, wrecked on the coast of Florida, and carried into Key West.—[Charleston Courier.]

MISCELLANY.

TRUE DIGNITY.—Philosophers, and men who think beneath the surfaces of things, assert that true dignity exists in the mind, and is independent of external circumstances, whilst the great mass of mankind, imagine that it can only be found in elevated stations, and the old world particularly are given to the conclusion, that it only exists in conjunction with the pride of ancestry, and in the contemplation of a long list of noble, illustrious, and affluent predecessors. That such a contemplation may dignify the feelings, and incite the scion of such a stock to respect himself, and take the most correct means to make himself respected, is probable enough, and such an effect is very often produced. But that this true dignity of soul is not inseparably connected with such collaterals may frequently be proved. The following is perhaps as decisive upon the case as can be given:—

A boy, the son of a barber, was observed to be attentive to the petty duties of the school to which he was sent, and to labor hard to improve himself according to the small means that could be afforded to him. A solicitor in his neighborhood perceived the industry of the lad, and the propriety of his deportment; he fancied he saw in him something more than the every day production of humble life; and accordingly made an offer to the parents of the boy, to take him into his service, partly to perform duties of a domestic nature, and occasionally to assist in the office as a writer or copyist. Of course the offer was gladly and thankfully accepted. In his new situation he ever behaved with respect to his master and with propriety to those around him; but it was quickly seen, that he lent all the attention which time would permit to the study of law books in his master's library. The solicitor was not slow in distinguishing his merits, nor did he hesitate to show unequivocally his approbation of the lad's conduct; he offered to defray out of his own pocket, the fee for legal articles, and enable him to pursue the profession in his own office. Here was another important step for the youth, who now pursued his studies with ardor, and performed his duties with a zeal which only sincere and deeply felt gratitude could inspire. Yet was not adulation towards his superior, nor arrogance towards the class he was leaving behind, ever evinced from him.

He served his articles out, was entered an attorney in the Court of King's Bench, and practice followed in reasonable proportion; but our youth, now a man, was seized with a nobler ambition, and resolved to quit the grade of *solicitor*, and try his fortune at the bar. He was admitted to keep terms, passed through them, and was called to the bar with the respect and good wishes of all classes of his profession. And what had produced this universal good feeling? Not the fawning, sycophantic expressions and actions of a vulgar soul, but the modest, respectful, but independent conduct of a mind well constructed. He pursued his career with undeviating but quiet course, was gradually raised in legal eminence and legal dignity, until he became Lord Chief Justice of the Court of King's Bench, the highest common law office that can be held under the British crown.

And here, to any but one whom insult cannot injure, and whose equanimity is such as worldly caprice cannot unsettle, he received his first indignity, following hard upon his highest honor, from the same hands,—those of "the finest gentleman in Europe," by which title was recognized the late George IV.

It is customary to make the magistrate above alluded to a peer of the realm, but this was refused to the distinguished subject of this article, on the ground of low extraction. He therefore held the office with the honor of knighthood *only*, for some time;—but justice could not be withheld for ever. So happily did he deport himself in this elevated and important situation,—with such suavity to the bar, such mildness to the witnesses, such independence in the expression of opinion,—occasionally familiar, and even facetious,—that he could convulse the court with the sallies of his wit, yet ever so dignified, that no one durst presume upon his good nature,—always listened to with respect,—rarely, very rarely an appeal from his judgment,—his name was equally synoimous with *justice* and *gentleman*, and at length the title came, tardily, which added nothing to his real elevation, though it gave him a seat in the legislation of the nation, as a peer,—and which in fact only added an additional duty to those he had already in his hands.

Henceforth he acted with zeal and rectitude of intention in the twofold capacity of legislator and judge, and died a short time back, regretted and respected universally.—as the *great* and *good Charles Abbot*, LORD TENTERDEN.

Kepler's Laws.—In casting our eyes down the list of the planetary distances, and comparing them with the periodic times, we cannot but be struck with a certain correspondence. The greater the distance, or the larger the orbit, evidently the longer the period. The order of the planets, beginning from the sun, is the same, whether we arrange them according to their distances, or the time they occupy in completing their revolutions; and is as follows:—Mercury, Venus, Earth, Mars,—the four ultra zodiacal planets,—Jupiter, Saturn, and Uranus. Nevertheless, when we come to examine the numbers expressing them, we find that the relation between the two series is not of that simple *proportional* increase. The periods increase more than in proportion to the distances. Thus, the period of Mercury is about 88 days and that of the Earth 365—being in proportion as 1 to 4.15, while their distances are in the less proportion of 1 to 2.56; and a similar remark holds good in every instance. Still, the ratio of increase of the times is not so rapid as that of the *squares* of the distances. The square of 2.56 is 6,5b36, which is considerably greater than 4.15. An intermediate rate of increase, between the simple proportion of the distances and that of their squares, is therefore clearly pointed out by the consequence of their numbers; but it required no ordinary penetration in the illustrious Kepler, backed by uncommon perseverance and industry, at a period when the data themselves were involved in obscurity, and when the process of trigonometry and of numerical calculations were encumbered with difficulties of which the more recent inventions of logarithmic tables has happily left us no conception, to perceive and demonstrate the real law of their connexion.—This connexion is expressed in the following proposition:—"The squares of the periodic times of any two planets are to each other, in the same propor-

tion as the cubes of their mean distances from the sun." Take for example the Earth and Mars, whose periods are in the proportion of 3652564 to 6869796, and whose distance from the sun is that of 100000 to 152369; and it will be found by any one who will take the trouble to go through the calculation, that—$(3652564)^2 : (6869796)^2 :: (100000)^3 : (152369)^3$.—[Sir J. Herschel on Astronomy—Cabinet Cyclop.]

Instinct, &c. of Birds.—1. When the offspring require, for some time, the attention and industry of both parties to support them, animals are found to pair; but, in cases where the female alone is able to raise her progeny, the sexual intercourse is promiscuous. The affectionate attention of the parents is always adapted to the condition of their young, and is continued towards them till they are capable to provide for themselves. Man is a pairing animal. Some quadrupeds pair, and pairing is common among the feathered tribe. In winter, indeed, birds in general are without any fixed habitations; and many kinds of them appear in general flocks without any particular attention of one individual to another.—On the return of spring, however, the scene changes. The general society is dissolved, and many partnerships, consisting each of a male and female, are formed. The pair fix on a substantial spot, and by their joint labor construct a habitation. 2. Most birds prepare the nests with much care; and many of them discover ingenuity in the design and neatness in the execution. But the ingenuity and neatness belong to the species, and in no degree characterize individuals. The nest of those birds which have paired for the first time is not ruder or more inconvenient than that of those which have repeated the labor of nidification for a number of years. There is no deficiency in the first from want of instruction and practice, and the last have gained nothing by observation and experience.

> The dove that perch'd upon the Tree of Life,
> And made her bed among its thickest leaves;
> All the wing'd habitatants of Paradise,
> Whose songs once mingled with the songs of Angels,
> Wove their first nests as curiously and well
> As the wood-minstrels in our evil day.

The crow and the magpie, the lark and the linnet, and every other kind, has each a peculiar manner of building its nest: and every individual of the species, in similar circumstances, follows the same model, and uses similar materials. The instinctive propensity seems, in various instances, to accommodate its peculiar circumstances, both in building the nest, and in the process of incubation. In countries infested by monkeys, some birds, which in other climates build in bushes or in the clefts of trees, suspend their nests upon a slender twig, and so elude the mischievous propensities of the monkey. With us, ravens build on trees; but in the cold climates of Iceland and Greenland, they construct their nests in the holes of rocks. The nest is always suited to the size of the bird, and to the number of its eggs and young. Many small birds display much sagacity in concealing their nests by tufts of grass, or by twigs and leaves. In the nest we see a receptacle provided for eggs before they come to maturity, yea, before the bird knows that it is to lay them. Each species lays a determinate number; and it appears that, in this process, some birds, at least, do not act under the influence of physical necessity, but have, to a certain extent, an instinctive volition.—[Fergus' Bridgwater Treatise.]

The Modern Nubians and their Ancient Monuments.—In surveying the wonders which crowd the banks of the Nile from Meroë to Memphis, we are struck with the reflection, that the wealth, power, and genius whence they derived their origin have entirely passed away. In some portions of that extensive tract, a race little superior to savages pass a rude and precarious life, ignorant of the arts, and insensible equally to the beauty and the magnificence of the ruins which they tread under foot. They have ceased even to claim connexion with the people who raised the splendid monuments of Ebsamboul, Karnac, and Dendera; and, accordingly, they ascribe the anxiety which our countrymen display, in regard to those mountains of antiquity, to the desire of visiting the tombs of a European nation, who are supposed by them to have built the temples and sculptured the obelisks. The Nubians, especially, have relapsed into that low condition, where even curiosity has become dormant, and in which the eye can be every day fixed on the noblest works of human ingenuity without suggesting any speculation as to their authors, their epoch, or their design.—Throughout the whole world, in short, there is no greater contrast to be witnessed than between what now is, and what must once have been, in Ethiopia and Egypt. There is even great difficulty in passing, by an effort of thought, from the one condition to the other, through the various scenes of conquest and desolation which seem necessary to have produced the effects we contemplate. We might question history; but we would receive no answer, as to the events and characters which the lapse of three thousand years has thrown into an impenetrable obscurity. Surrounded with darkness, we grope our way amidst superb structures, dedicated to gods and heroes whose names make but a faint impression on our ears; and we satisfy ourselves with the conclusion, that a great people had existed there before the era of recorded time, whose literature and philosophy have been outlived by their architectural monuments.—[Edinburgh Cabinet Library, No. XII. Nubia and Abyssinia.]

Conscience.—Had God been an unrighteous Being himself, would he have given to this, the obviously superior faculty in man, so distinct and authoritative a voice on the side of righteousness? Would he have so constructed the creatures of our species as to have planted in every breast a reclaiming witness against himself? Would he have thus inscribed on the tablet of every heart the sentence of his own condemnation; and is not this just as unlikely as that he should have inscribed it in legible characters on the forehead of each individual? Would he have so fashioned the workmanship of his own hands; or, if a God of cruelty, injustice, and falsehood, would he have placed in the station of master and judge that faculty which, felt to be the highest in our nature, would prompt a generous and high-minded revolt of all our sentiments against the being who formed us? From a God possessed of such characteristics, we should surely have expected a different-moulded humanity; or, in other words, from the testimonies on the side of all righteousness, given by the vicegerent within the heart, do we infer the righteousness of the Sovereign who placed it there.—[Dr. Chalmers.]

Lachin y Gair.—"The Rev. J. D. Glennie, who visited the scenes in the Grampians which are associated with Byron, says, 'We asked our guide, a sturdy old Highlander of seventy, whom we could scarcely restrain from walking too fast for us up the hills, whether there were any fish in the lochan; on which he told us, with a mysterious look, and in an under-tone, that there were plenty, and fine fish too, but nobody ever fished there; for, 'as he had heard say,' the last person that tried it had good sport for some time, but at last he observed a man on the opposite side of the lake, under the rock, fishing also, throwing his line exactly as he did, and pulling out fish only when he did it himself. Not knowing what to make of so strange a circumstance, the angler shifted his ground, when, wonderful to relate! his opposite neighbor at once vanished! He was evidently something 'no caney,' added the old man, and nobody has ever fished in that loch since.' In these regions of mist, such an apparition might very probably occur, and would be sure to make a lasting impression upon the fears and imaginations of the superstitious Highlanders."—[Works of Lord Byron.]

Ali Pacha.—This use of military costume, to support or assume the character of a soldier, is not uncommon among *very peaceable* travellers on the continent. It once happened that a party, chiefly military men, aware of the better reception which a red coat would obtain at the court of Ali Pacha, took their uniforms. One of them, a young man, who could not boast of any regimentals except what he had worn in one of the London companies of volunteers, took these for want of better. At Yanina they were received by Ali Pacha with much courtesy; and, upon addressing the young traveller, Ali said to him, 'Where have you served?' This would have been a poser to most men in the same situation; but he won more honor by his wit than he had done by his sword; for his ready answer was, '*upon Wimbledon Common.*' Ali had too much tact to betray his ignorance of the battle or the place; and our city hero passed with the tyrant for a distinguished warrior.—[Illustrations of the Life and Character of Lord Byron.]

The Bishops not one of the "Estates."—Lord Clarendon, who, though Lord Chancellor, had no more pretensions to the character of a lawyer, than he had to that of a man of honesty and veracity, is very fond of insisting that the bishops are "*one of the estates of Parliament;*" and yet, in one part of his history, he admits that the presence of the bishops in the House of Lords; "was *not* so essential that no act could pass without them." Upon this passage Bishop Warburton makes the following just remark:—"But their presence is thus *essential* on the historian's principle, that the bishops constitute a distinct estate in Parliament. *But the principle is false.* If they did constitute a distinct estate, they must have a *negative voice*, as every other of the distinct estates have. Their having it not, shows they are no such distinct estate."—[Times.]

Specimen of Irish Reasoning.—"Och! Grace, honey, it would do your heart good to hear the fine discourse I heard from Tim Fogarty, the schoolmaster at Abbey side, whin he was converting Dick Nowlan. Dick, like a poor ignorant creathure as he is, said that the Protestant religion was the best, for says he, 'Isn't it the *reformed* religion, and a'n't ye all crying ont for reform from morning till night, and here's a reformed religion ready made to your hand?' 'Wey then bad luck to you, ye spalpeen,' says Tim, 'sure the *Roman* is the only old thrue faith; didn't you see or hear of Paul's Epistle (which means a letther) to the Romans?' 'Yis, I did, sure enough,' says Dick. 'Well, then,' says Tim, 'did ye ever see or hear of Paul, or any other of the saints, writing a letter to the Protestants? Now, Dick, what have you got to say?' "Faith, Grace honey, that foolish fellow, Dick Nowlan, was dumb founded, and could not say bo to a goose; and who after that, could doubt the Roman Catholic religion being the only thrue one; and who could help wishing to convert the good masther and Parson Disney, and the rest of the good people, to it?"—[The Repealers.]

How are the Stars the Poetry of Nature?—Not certainly on account of their visible splendor: for the gas lamps in a single street of this metropolis outshine the whole hemisphere on the clearest winter evening: nor on account of their beautiful configurations; for the devices chalked on the floor of a fashionable ball-room, to the mere animal eye, would be more captivating. It is from causes having affinity to mind, not matter; to truth, not semblance; that the stars may, indeed, be called the poetry of heaven.—The bodies alone appear to us the identical luminaries, in size, lustre, movement, and relative position, which they appeared to Adam and Eve, in Paradise, when—

> "At their shady lodge arrived, both stood,
> Both turned, and under open sky adored
> The God that made both sky, air, earth and heaven,
> Which they beheld; the moon's resplendent globe,
> And starry pole."—*Paradise Lost, Book IV.*

They appear to us the same as they did to Noah and his family, when they descended from the ark in the silence of an unpeopled world; and, as they did to the builders of Babel, when the latter projected a tower whose top should reach heaven. [By the by we do not know whether La Place would agree to this.] Once more—and oh! how touching the thought—the stars, the unchanging stars, appear to us with the same placid magnificence as they were seen by the Redeemer of the world, when, having sent the multitude away, he went up into a mountain apart to pray; and when evening was come he was there alone, "and continued all night in prayer to God."—Matt. xiv. 23.—Luke vi. 12.

> "Cold mountains and the midnight air,
> Witness'd the fervor of thy prayer;
> The desert his temptation knew,
> His conflict and his victory too."—*Watts.*

The stars, then, have been the points where all that ever lived have met; the great, the small, the evil, and the good; the prince, the warrior, statesman, sage; the high, the low, the rich, the poor; the bond and the free: Jew, Greek, Scythian, and Barbarian. Every man that has looked up from the earth to the firmament, has met every other man among the stars, for all have seen them alike, which can be said of no other images in the visible universe! Hence, by a sympathy neither affected nor overstrained, we can, at pleasure, bring our spirits into nearer contact with any being that has existed, illustrious or obscure, in any age or country, by fixing our eyes—to name no other—on the evening or the morning star, which that individual must have beheld a hundred times,

> "In that same place of heaven where now it shines,"

and with every aspect which the beautiful planet wears to us, and with which it will continue to smile over the couch of dying or the cradle of reviving day.—[James Montgomery's Lectures on Poetry, &c.]

Some years ago, when the famous Dr. Leib was figuring in political life, when prejudices were strong, and party feeling ran high, application was made to the Legislature of Pennsylvania to incorporate a "Life Insurance Company" for the term of fifty years. A zealous member rose and addressed Mr. Speaker with, "Sir, I don't like this bill, and shan't vote for it. The petitioners have asked to be incorporated to insure lives for fifty years, and what will be the consequences of granting their prayer? why, the first thing you'll know, that Dr. Leib will get his life insured for the whole time, and we shall have him tormenting us for half a century to come."—[N. E. Review.]

MARRIAGES.

This morning, at the Cathedral, by the very Rev. Dr. Power, Auguste de Nauteuil, of France, to Angele, second daughter of Lewis Binsse, Esq. of this city.

On Saturday evening last, by the Rev. Dr. McCartee, Mr. Jacob Willse, to Miss Eleanor C. daughter of Mr. William More, all of this city.

On Sunday evening, Aug. 4, by the Rev. Wm. G. Miller, Mr. Thomas T. Hendlen, to Miss Emeline Taylor, both of this city.

On Wednesday evening last, by the Rev. Mr. Baldwin, Mr. George F. Searing, to Miss Mary Ann Woodhouse, all of this city.

Last evening, by the Rev. Wm. Patton, Anthony Lane, to Elizabeth S., daughter of Oliver Willcox, Esq. all of this city.

On Tuesday, Mr. Samuel D. Johnson, to Miss Emeline Tice.

On Monday evening, by the Rev. F. H. Cuming, John Meek, to Miss Catherine Adams.

On July 15, Franklin Whitney, to Mary Henrietta Glade.

At New-Orleans, J. M. Mason, to Miss Angeliner Eliza Sheils.

On the 31st July, at Bolton, (Mass.) by the Rev. J. W. Chickering, Mr. Gustavus U. Richards, of this city, to Miss Electa B., daughter of S. V. S. Wilder, Esq. of the former place.

On Wednesday evening, July 31, by the Rev. Dr. Milnor, Mr. Benjamin Richards to Miss Jane Haight, daughter of the late Judge Scott, of Catskill.

On Wednesday morning, July 31, Mr. Alex. McKenzie, to Miss Mary Gardner.

On Monday evening, July 29, Mr. Joseph Taylor, to Elizabeth Kizer.

On Monday, Mr. Henry Miller, of the firm of J. D. & H. Miller, to Miss Jane C. Philips.

On Monday evening, Robert Cochran, to Agnes Kirkwood, both of Galway, N. Y.

At Albany, Edward S. Willet, to Miss Elizabeth M'Chesney.

On Monday evening, at St. George's Chapel, by the Rev. Dr. Milnor, Edw. F. Woodward, of England, to Miss Susan O., fourth daughter of the late Thos. Betts, Esq. of L.I.

On Wednesday evening, Mr. Andrew Kirkwood, to Miss Jane Nichol, both of Galway, N. Y.

DEATHS.

On Monday morning, 5th instant, William, only son of Wm. Chapman, aged 13 months.

Suddenly, on Monday evening, 5th instant, in the 46th year of his age, Mr. George Kinshimer.

On Friday last, Henry Colman, aged 14 months, son of the Rev. F. H. Cummings.

Yesterday afternoon, William Fagan.

This morning, after a short and severe illness, Miss Catherine Poole, aged 22 years.

At Yonkers, on the 2d inst. Joseph Oakley, in the 82d year of his age.

On Tuesday morning July 30, at Washington, N.C. in the 18th year of his age, Julius H. Bulkley, son of Edmund Bulkley, of this city.

On Sunday morning, 4th instant, of consumption, Charles Russell Bullard Avery, infant son of the late Samuel P. Avery, aged 9 months and 22 days.

Sunday morning, 4th instant, Mr. Isaac Coutant, in the 36th year of his age.

Suddenly, on Saturday evening, August 3d, (at her late residence, No. 86 Grove st.) Miss Rebecca Herbert, in the 43d year of her age.

At Saratoga Springs, on the 31st ult., after a short illness Samuel Snow, Esq. of Petersburg, Virginia.

Last evening, after a long and painful illness, Thomas Sturm, Esq. aged 85 years.

On the 4th instant, Mr. Robert Waite, eldest son of the late Robert N. Waite, Esq.

In this city, (Cincinnati, Ohio,) on Friday last, July 26th, (of bilious cholic, terminating in cholera,) Mr. Richard Phillips, Glider, in the 34th year of his age, formerly of New-York.

The deceased arrived in this city in October last, where he continued to reside until his death. He was a young man of amiable manners and correct habits.

It is understood that the deceased has a brother and sister in New-York, as also a brother in Boston. Should the above notice reach them, and they wish to obtain any further particulars, they will please address C. W. James, Cincinnati. To this end the New-York and Boston papers will please notice the above.

Of Cholera, at Bardstown, Kentucky, after a few hours indisposition, Wm. Rowan, and Mrs. Rowan, his wife—A. H. Rowan, and Mary Jane Steele, sons, daughter-in-law, and grand daughter of Judge John Rowan. On Friday 26th inst. all four of them were deposited in the same grave.

At Bloomingdale, on the 4th instant, Rachel Hegeman, in the 59d year of her age, wife of Nicholas F. Hegeman.

Yesterday morning, at his late residence, Bushwick, Newtown, Colonel George Gibbs, in 57th year of his age, formerly of Newport, R.I. where the remains will be taken for interment.

At Fort Mitchell, Ala. Eliza, consort of Major James S. M'Intosh, of the U. S Army.

In Rockingham, Va. Frances W., wife of Wm. H. Gray.

FOR SALE,

☞ ATLANTIC JOURNAL AND FRIEND OF KNOWLEDGE—A Quarterly Journal, by Professor Rafinesque, of Philadelphia, begun in the spring of 1832, with wood cuts, &c dedicated to Historical and Natural Sciences, Botany, Agriculture, &c. at one dollar per annum.

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☞ GRACIE, PRIME & CO. offer for sale, at 22 Broad street—

2 cases Gum Arabic
20 do. Danish Smalts, EFFF
10 do. Saxon do. do. } Reduced Duty
100 bags Saltpetre
2 do. Gall Nuts; 20 tons Old Lead
100 do. Trieste Rags, FF
6 boxes each 50 lbs. Tartaric Acid
6 do. each 25 lbs. do. do.
1 case 50 bottles Syrop de Vinaigre
10 cases White Hermitage; 20 do. Cotie Rotie
10 do. Dry St. Peray: 50 do. Bordeaux Grave
20 do Chateau Grille; 5 cases each 12 bottles Olives in Oil
8 bales Fine Velvet Bottle Corks
100 do. Bourton Cloves
30 do. Molieres Almonds
143 bundles Liquorice Root
4 bales Goat Skins
1 cask Red Copper, 1 do. Yellow do.

DRY GOODS BY THE PACKAGE.

10 cases light and dark ground Prints
40 do. 3-4 and 6-4 colored and black Merinos
15 do. 5-8 colored and black Circassians
2 do. Silk Bandannas, black and colored
4 do. Italian Lustrings
3 do White Satteens
6 do. White Quiltings
10 do. Borrie's Patent Thread, No. 22 and 25
10 do. Super high col'd Madras Hdkfs, ent. to debenture
100 pieces Fine English Sheetings, for city trade
3 cases Cantoon Cords
2 do. Super blue, black, and colored Cloths—selected expressly for Merchant Tailors
25 bales low priced point Blankets.

PAPER—

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Mathematical Instrument Maker, No. 9 Dock street,
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The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad., Germant. and Norrist. Railroad

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Hudson, Columbia county, New-York, January 29, 1833. F31 tf

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☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Heartte.—Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses, not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD, U. S. Civil Engineer.

Baltimore, May 1st, 1833.

To Messrs Ewin and Heartte—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming aquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself, and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, to relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B. H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of perusing the same. m25